

JANUARY, 1952

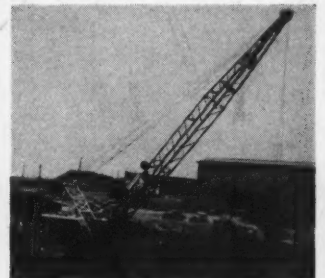
Flow



**16 WAYS TO HANDLE
FOOD PRODUCTS**



**COL. WAY ANSWERS QUES-
TIONS ON: PACKAGING
FOR THE MILITARY**



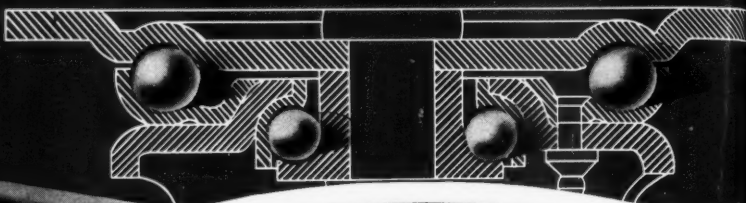
**HOW TO GET LONGER
SERVICE FROM YOUR
MOBILE CRANES**

**FLOW SURVEY REPORT: CONVEYORS — THEIR DESIGN AND APPLI-
CATION AND ENGINEERING DATA FOR THEIR EFFECTIVE USE**

FLOW QUARTERLY

The Biggest News of the Industry
Watch for the First Issue This Month

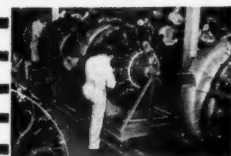
2 FULL ROWS OF BALLS...



SAVE 3 WAYS



PRODUCTION: Higher production costs demand new short cuts... from receiving to shipping platforms. Faultless Casters speed up the flow of materials.



MAN-HOURS: Cutting handling time, accounting for over 20% of industry's man-hours, provides your greatest opportunity for gains in worker productivity—unit output.

FLOORS: No need for costly floor alterations or floor covering—Faultless wheels are available for all types of floor surfaces and loads.

NOELTING

Faultless Casters are precision built with specialized machine-tools developed during half a century of caster-making experience—and are safeguarded with surplus strength at points of stress and wear. Our representative will gladly show you why, or write for literature.

Faultless

INDUSTRIAL CASTERS

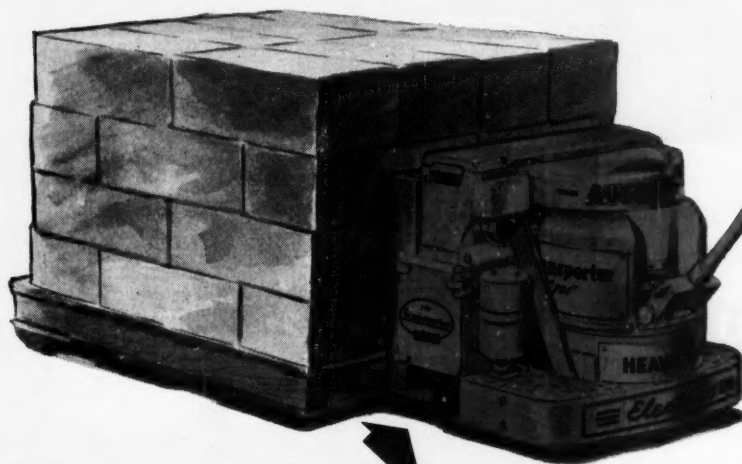
FAULTLESS CASTER CORPORATION
EVANSVILLE 7, INDIANA

BRANCHES IN ATLANTA, BOSTON, CHICAGO, CLEVELAND, DALLAS, DETROIT, GRAND RAPIDS, HIGH POINT, HOUSTON, INDIANAPOLIS, LOS ANGELES, NEW YORK, ST. LOUIS.
Canadian Factory: Stratford, Ontario.

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FREE PROOF

In Your Own Plant!



**MOST SENSATIONAL OFFER
WE HAVE EVER MADE**

to Demonstrate

**It Can Cut Your
Material Handling Costs**

AS MUCH AS

50% OR MORE

Press-button magic moves tons with a touch-of-the-finger. One man does the work of three—eliminates back-breaking, old-fashioned hand-handling, actually releases 2 out of 3 men for more productive work. Saves as much as 50% to 75% in handling costs every working day.

There are more Automatic Transporters in service today than any other operator-led Electric Truck.



Yours to Use FREE for 3 Days

**TO PROVE YOU CAN ADD MAN-HOURS
WITHOUT INCREASING WORKLOAD OF PERSONNEL**

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It's saving industry millions of dollars every year, offers many features which mean better performance, less maintenance, lower operating costs... extra savings in smooth trouble-free material handling.

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**AUTOMATIC TRANSPORTATION CO., WORLD'S LARGEST EXCLUSIVE BUILDER OF
ELECTRIC INDUSTRIAL TRUCKS, IS A DIVISION OF THE YALE & TOWNE MFG. CO.**

FREE TRIAL COUPON

**AUTOMATIC TRANSPORTATION CO.
141 West 87th Street, Dept. A-2
Chicago 20, Illinois**

Yes, I want to put the "101" Transporter to work for me for 3 days, free of all cost and obligation. Have your representative schedule it for me.

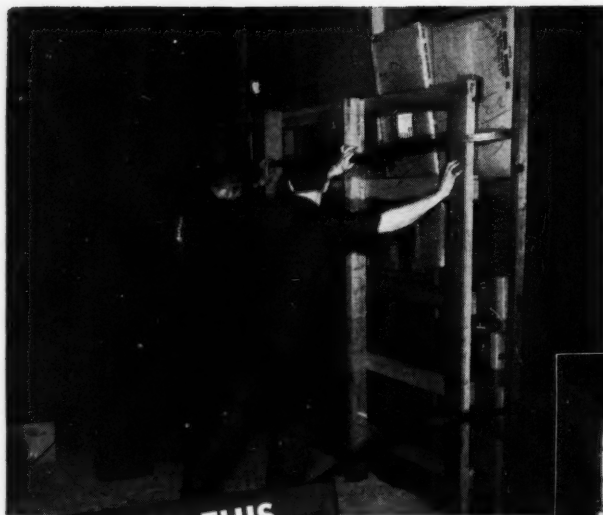
Company Name.....

By..... Title.....

Street Address.....

City..... Zone..... State.....

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waste of manpower
and materials!

START THIS

use of permanent,
returnable bulkheads!

How **Pittsburgh** **BULKHEADS** save you dunnage money



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a product of **Pittsburgh Steel Products Company**

A Subsidiary of Pittsburgh Steel Company
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Publisher
WILLIAM S. WHEELER

Editor
HENRY F. EATON

Associate Editor
STANLEY S. GREENE

Associate Editor
JOHN D. VELARDO

Art Director
JOHN DIX

Circulation Director
EDWIN M. JOSEPH

Production Manager
WM. L. JERSE

**FLOW EDITORIAL AND
BUSINESS OFFICES**

All communications should be addressed to FLOW Magazine, 1240 Ontario Street, Cleveland 13, Ohio

Cleveland Office
DAVID E. SAWYER
1240 Ontario Street
Cleveland 13, Ohio
Phone Superior 1-9622

New York Office
LEE HAAS
ROBERT MACBETH
60 E. 42nd St.
New York 17, New York
Murray Hill 7-3420

Chicago Office
F. P. MIGNIN, Jr.
LYLOYD WILLOUGHBY
Room 734
520 N. Michigan Ave.
Chicago 11, Illinois
Superior 7-7823

Los Angeles Office
FRED FRISENFELDT
Industrial Publishing Co.
Room 602
1250 Wilshire Blvd.
Los Angeles 17, Calif.
Tucker 6703

London Office
JOHN A. LANKESTER
5 New Bridge Street
London, E.C. 4, England
City 4915

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For Civilian or Defense Products

a low cost Collapsible Pallet Box

**Engineered to meet
your requirements**

check



Here's a money saver for in-plant storage and handling of materials and for outside shipments too. Its low initial cost will save thousands of dollars for plants using pallets in quantity.

check



The B-G Collapsible Wood Pallet Box is light in weight but built strongly enough to handle weights up to 5000 lbs. and is rugged enough to stand up under many repeated shipments.

check



The collapsible feature is made possible by the exclusive Bigelow-Garvey TIGHT CORNER hinge design used on all of our collapsible wood shipping crates.

Used as a storage box, a tote box or as a shipping container, you will like this sturdy but inexpensive addition to effective materials handling.

MODEL B

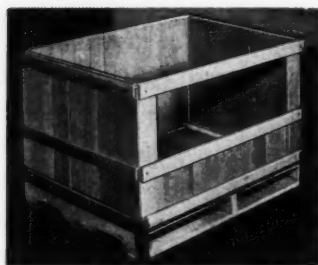


Photo shows front opening for easy access to contents when stacked one on top another or in racks. Furnished with or without self-locking insert panel.

MODEL C



B-G Pallet Box attached to standard pallet by means of four corner irons and a single steel strap, showing the hinged drop leaf for easy access when pallet boxes are stacked or tied.

MODEL A



Photo shows hinged box collapsed for storage or return shipment. Pallet Boxes can be furnished with or without Tops for all models.

always check



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BIGELOW-GARVEY
lumber company

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Kraft
Crate



Tight Corner
Hinge Crate



Pallets



Pallet
Boxes



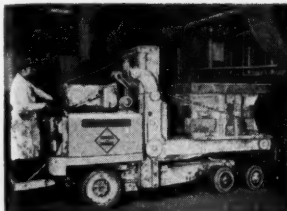
Wooden
Boxes



Six Section
Panel Crates

MILLS: ARKANSAS GEORGIA WISCONSIN MINNESOTA ILLINOIS

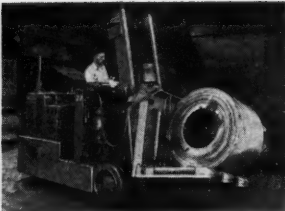
Write for complete details and prices to...



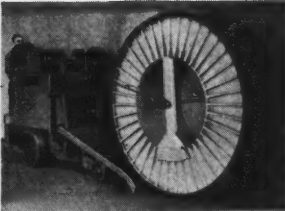
Die Handler



Pallet Retriever



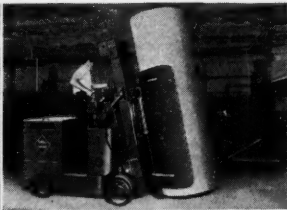
Upender



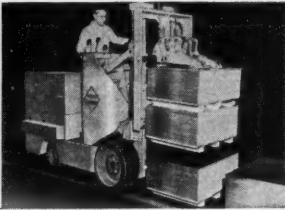
Cable Reel Handler



Side Dump Revolving Unit



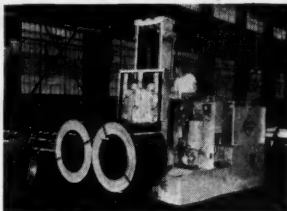
Roll Handler with Apron



Tin Plate Clamp



Bale Clamp



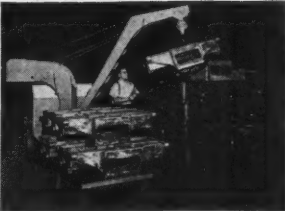
Twin Coil Handler



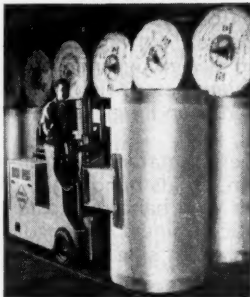
Rotary Scoop



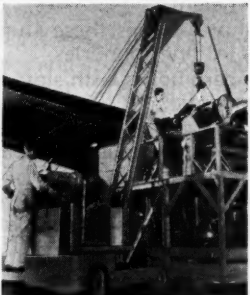
Roll Piercing Truck



3-Ton Low Lift; 1-Ton Crane



Roll Clamp



Special Crane



Drum Handler

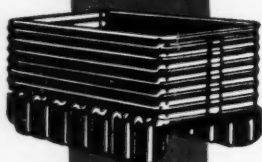


NEW ATTACHMENT FOLDER describes and illustrates in detail the many attachments for E-P fork trucks. Write for your copy.

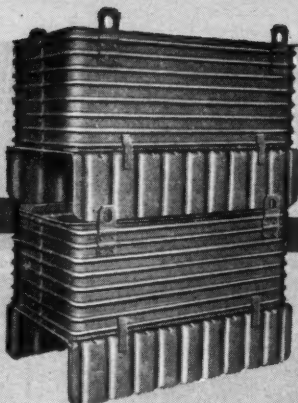
ELWELL-PARKER
POWER INDUSTRIAL TRUCKS
Established 1893

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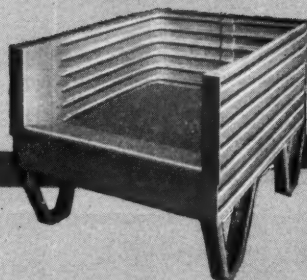
**POWELL
PRESSED STEEL**



SINCE 1920



TIERING WELDED BOX PLATFORMS



FOUNDRY FUNNEL BOXES

STANDARD and JOB- CONTAINERS FOR EVERY

Whatever your handling job Powell has a serviceable durable all-steel container that will exactly fit job requirements. Powell engineers, backed by more than 30 years experience in designing and building containers for moving or storing purposes of every description, are best qualified to help you achieve the most efficient handling system possible.

For more inexpensive plant operations, for better materials handling, call in the Powell man in your area—he is a materials handling expert and the one man who can best help you lower your handling costs. Pictured are a few of the many basic types of containers designed and built by Powell. These containers can be made in size and style to exactly meet your job requirements.

TIERING WELDED BOX PLATFORMS—Heavy duty boxes that will hold anything . . . can be tiered to almost any height.

FOUNDRY FUNNEL BOXES—For handling hot castings these sturdy open end boxes are doing a job for America's leading foundries.

FOUR-WAY CRANE TIERING BOXES—Standard boxes with slots for four-way lift truck entry . . . crane lift attachments.

HOPPER BOXES—Ideal for small parts handling. Powell Hoppers eliminate need for special table. Can be made with various door openings. Available in slanted gravity feed or straight bottoms.

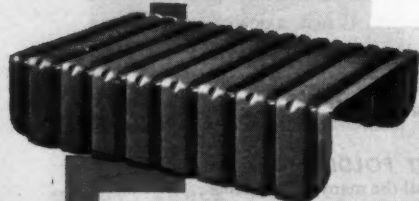
ROLL-OVER BOXES—For use where volume and constant material flow are essential. Powell Roll-Overs enable quick filling of press hoppers, conveyors, etc.



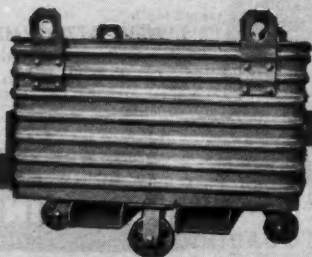
**ALL-STEEL
REVERSIBLE PALLET**



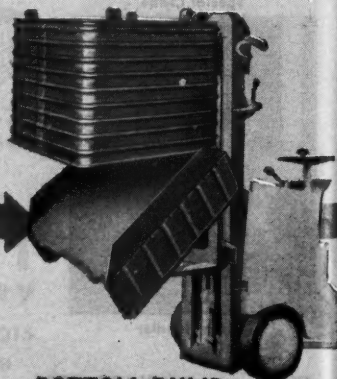
**NESTEEL
NESTING PALLET**



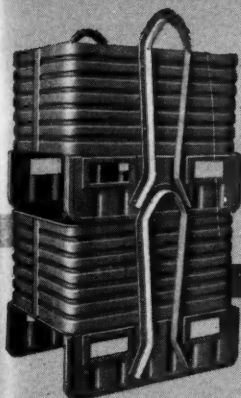
**LIFT TRUCK
PLATFORMS**



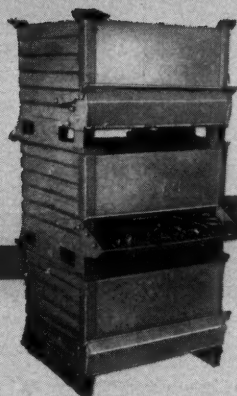
ROLL-OVER CASTER BOXES



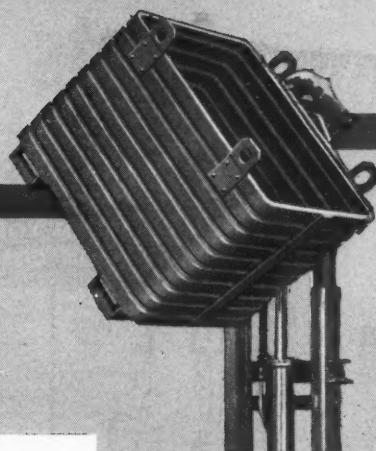
**BOTTOM DUMP
PLATFORM BOXES**



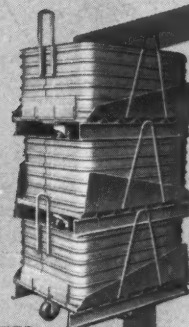
**FOUR-WAY CRANE
TIERING BOXES**



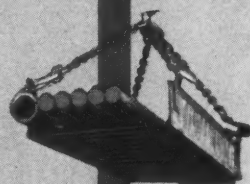
HOPPER BOXES



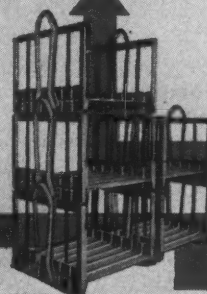
ROLL OVER BOXES



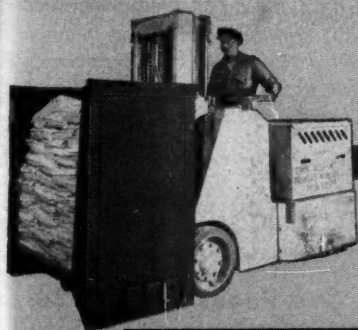
**CASTER
BOTTOM
DUMP UNIT**



BAR CARRIERS



PALLET RACKS



WAREHOUSE STACKING UNITS

Please address inquiries to Dept. 212

B-DESIGNED ALL-STEEL ERY MATERIALS HANDLING PURPOSE

DUMP BOXES—Dumps for every purpose... sizes can be built for your particular operation.

BAR CARRIERS—If you're handling long items, rails, pipe, conduit, tubing, bars, etc., a Powell Carrier can be built to do a more efficient job.

STACKING PALLET-RACKS—Durable racks built to handle large or bulky materials, such as crank shafts, which will not readily carry in a box type unit.

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CASTER-BOTTOM DUMP UNITS—Extremely flexible caster bottom dump boxes can be handled in normal manner with lift truck, can be roll-over dumped, can be tiered—and they will roll easily on their own casters.

LIFT TRUCK PLATFORMS—Standard units that can be made in many sizes and styles to best suit your particular job.

NESTEEL STACKING PALLETS—Sturdy, one-piece, all-steel pallets that nest one into the other. Ideal for ship-and-return use.

(Special Bulletin on Request.)

WELDED STEEL PALLETS—Standard all-steel pallets of basic designs to suit your needs.

SPECIAL—If you have a need for a special container remember Powell is the world's most experienced manufacturer of all-steel handling containers. Call your Powell representative or write direct.

THE POWELL PRESSED STEEL CO., HUBBARD, OHIO
ORIGINATORS OF COLD FORMED ALL STEEL HANDLING EQUIPMENT

(In Greater Youngstown)



four points in your favor

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on the Coffing Hoist
Line. Write Dept. FL-1

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Lever Hoists • Mighty-Midget Pullers • Spur-Geared Hoists
Differential Chain Hoists • Load Binders • I-Beam Trolleys

LETTERS to the editors

To FLOW:

We have a problem in transferring batch cans between our work tables and our slicing machine. There is considerable weight involved in each transfer, and while a man can do the job, it involves a great deal of continuous physical effort. The distance between the work tables and the machine is only about 15 ft. although there is several feet difference in the height of the two work areas. How can we make this transfer without tiring our men.

Alfred Priest
Rochester, New York

Here is another question we want to throw into our readers' laps. We have given reader Priest some information to start on but your suggestions will help.

To FLOW:

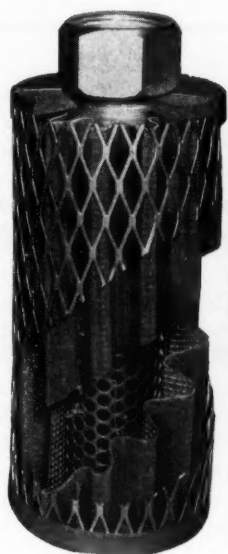
We handle a relatively small number of ink drums (55 gal.) weight maximum 700 lb. These are transported from our shipping department to our ink room on skids (11 in. high) with platform trucks. Our problem is how to remove these drums and place them on the floor by mechanical means. Can you help us out?

E. Gilbert Mathews
National Folding Box Co., Inc.

We have given reader Mathews some ideas on this subject and suggested several types of equipment that might help him. Do any of our other readers have any ideas?

You Can Still
Save Money ---
See Pages 120 & 124

Simplify Your Preventive Maintenance

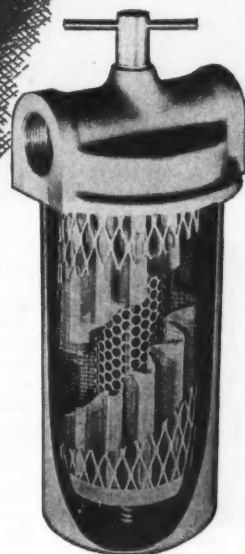


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(Cutaway)

with

MARVEL SYNCLINAL FILTERS

For All Hydraulic Systems



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(Cutaway)

SIMPLE EFFICIENT DESIGN REDUCES DEMAND ON YOUR SKILLED MAINTENANCE HELP

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Choice of Over 200 Original Equipment Manufacturers

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Available in capacities of 5 to 100 g.p.m., and in mesh sizes from 30 to 200. Multiple installation provides capacities as great as you may require. Depend on Marvel for efficient filtration of non-corrosive liquids in all hydraulic and low pressure systems.

Write for Folder 105

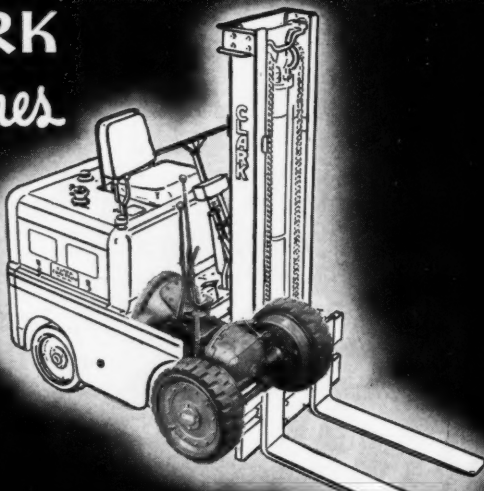
MARVEL ENGINEERING COMPANY

625 W. Jackson Blvd. Chicago 6, Ill.

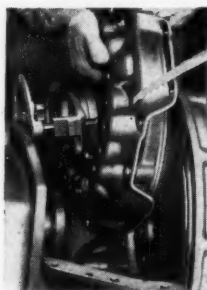


Meets
J. I. C.
Standards

CLARK features



A CLUTCH YOU CAN CHANGE IN 80 MINUTES



LIFTING THE CLUTCH
OUT OF POSITION

AT YOUR SERVICE

At the other end of your telephone is CLARK'S world-wide Service Organization ready to give you every needed help where you need it—when you need it. You'll find the Service Organization nearest you listed in your Classified Telephone Book under "Trucks, Industrial."

THE CLUTCH is far and away the most vulnerable part of a fork-lift truck. It takes the brutal strain, torture and wear each day of hundreds of stops, starts, "inching" maneuvers, shifts from forward to reverse and vice versa. In just one week of work it takes more punishment than your car's clutch takes in a year.

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CLARK

ELECTRIC AND GAS POWERED
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 13, MICHIGAN

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Please send: ☐ CLUTCH DATA SHEETS ☐ MATERIAL HANDLING NEWS

Name _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

news from the SALES FIELD

Automatic Transportation Co. has appointed a new sales representative for the Waterbury, Conn. territory. The new representative, Clyde Equipment Co., is located in West Hartford, Conn.

The Harrington Co. has announced the appointment of Dunn & Bryan as its New York representative. Established as manufacturer's agents in the heavy hardware field since 1934, Dunn & Bryan will handle the complete line of hoisting equipment made by Harrington Co.

Two new exclusive sales organizations have been appointed by the Buda Co. Ohio Equipment Co., Inc., 1220 West 9th St., Cleveland, Ohio is handling the Cleveland territory, and the E. J. Werner Co., 217 Ash Street, Akron, Ohio, takes over the Youngstown area.

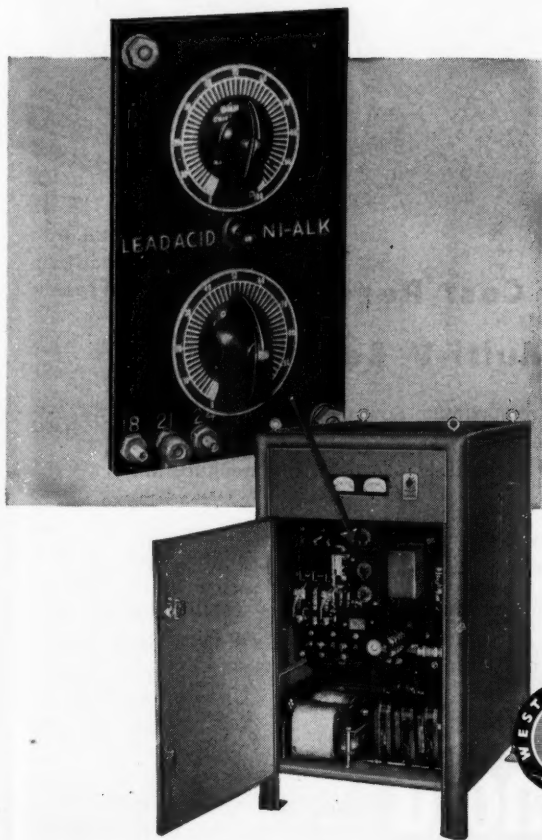
New offices have been opened in Toronto, Ontario to handle the distribution of the complete line of material handling equipment of Speedways Conveyors (Canada) Ltd. The new address is 2908 West Bloor Street in Toronto.

New representatives for the Yale line of material handling machinery in the Charleston (W. Va.) marketing area is Baker Equipment Engineering Co. The announcement was made by J. P. Kinney, general sales manager of Yale & Towne Manufacturing Co.'s Philadelphia Division. The new representative is located at 404 Morris Street, Charleston. President of the concern is Charles Foutche.

(Turn to page 24)

Circle No. 9 on Reader Service Card for more information

**"Rectox
SIMPLE DIAL
OPERATION
is for me!"**



Just set the dials for the starting and finish rate. No transformer or reactor taps to change for current adjustment. It is completely automatic . . . fool-proof. Anyone can operate it. Just plug it in and forget it. What's more:

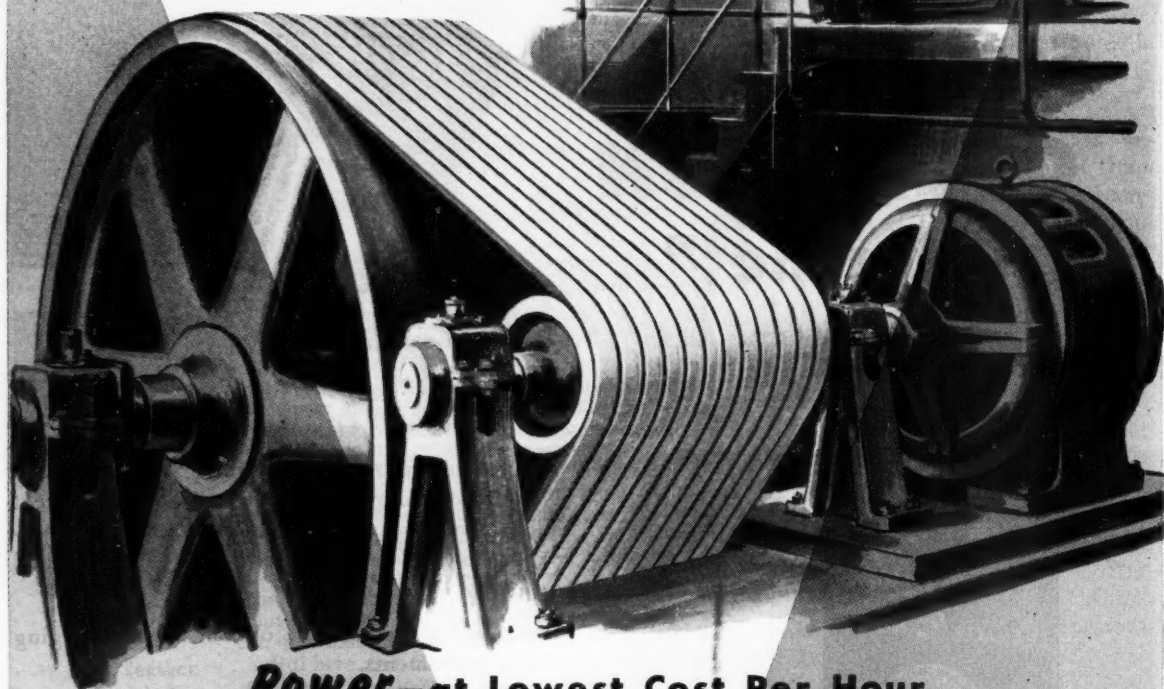
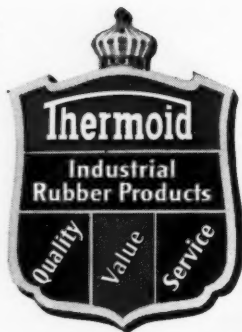
- ★ One unit serves 80% of your battery charging requirements.
- ★ No energy wasting resistor . . . no moving parts.
- ★ Combination units charge lead-acid or nickel-alkaline-type batteries.

MORE DATA? Ask your Westinghouse Representative for a copy of DB-19-040 or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-21619



Circle No. 10 on Reader Service Card for more information



Power—at Lowest Cost Per Hour with Thermoid Multi-V Belts

Thermoid Multi-V Belts are pre-stretched to insure maximum power transmission without adjustment. They are constructed for flexibility and ability to absorb repeated shock loads ... thoroughly impregnated with special rubber compounds to withstand moisture and abrasion, resulting in longer belt life.

Thermoid Multi-V Belts are available in matched sets—uniform in size and cross section. Their longer life and non-slip performance add up to "Power—at the lowest cost per hour."

Your Thermoid Distributor can help you with your power belting problems—whether you need Multi-V, F.H.P. or flat transmission belts. For unusual belt problems, a Thermoid Field Representative is always available to give you the benefit of his experience.

Thermoid

Conveyor & Elevator Belting • Transmission Belting
F.H.P. & Multiple V-Belts • Wrapped & Molded Hose

Rubber Sheet Packings • Molded Products
Industrial Brake Linings and Friction Materials

Thermoid Company • Offices & Factories: Trenton, N. J., Nephi, Utah

MEN in the news



Lamson Co. executives—left to right, Carl F. Dietz, Robert I. Hicks, Francis D. Weeks.

... at Lamson Corporation of Delaware

Proposed future expansion of the parent company and its operating subsidiary, Lamson Corporation resulted in the following administrative shifts. **Carl F. Dietz**, resigns as president of the subsidiary, but remains as president of the parent company and of its mail-tube subsidiaries in New York and Boston. Promoted to head Lamson Corporation as president is **Robert L. Hicks**, who has been vice president and marketing manager. He will continue as vice president of the parent company **Francis D. Weeks**, vice president and treasurer has been given the added duties of chairman of the board of the operating and manufacturing corporation.

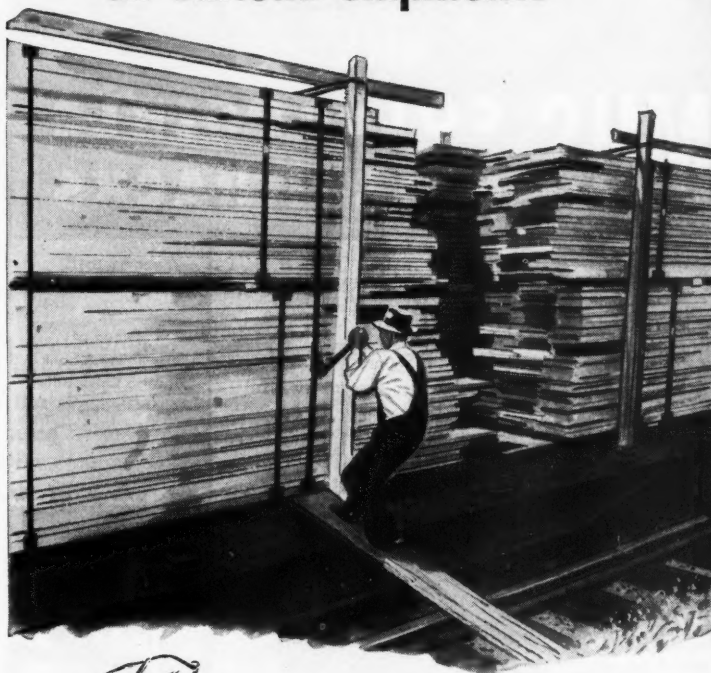
... at Hopkinsville Pallet Co., Inc.

R. G. Lenz has been appointed assistant sales manager of Hopkinsville Pallet Co., Inc. He will be directly associated with **J. A. Davis**, vice president and sales manager of the company at the general sales office in Detroit.

... at Automatic Transportation Co.

Appointment of **H. J. Hincker** as chief engineer of the Automatic

How to cut loading time and reduce damage on carload shipments



**"An investment in knowledge
pays the best interest."**

—Ben Franklin's Almanac, 1757

A major cost factor in shipping any product in carload lots is *handling*, and another is damage in transit.

Today many manufacturers have learned how to get big savings on both these items. They use Acme Unit-Load Band.

It does away with costly bracing materials... minimizes danger of damage... makes unloading safer, easier, quicker.

It's easy — unskilled loading crews quickly grasp the principle of Unit-Load, learn to use Acme Unit-Load tools.

It saves real money. For example, the Electric Storage Battery Company, Philadelphia, cut handling costs 65% on unloading and storing carload shipments of lumber.

We look forward to the day when we can supply Acme Unit-Load Band to everybody who wants it, in the quantities they want. Meanwhile, why not get all the information you can about it? Ask your Acme Steel representative, or write Dept. F-12.

ACME STEEL COMPANY

2840 Archer Avenue, Chicago 8, Illinois

Steel Strapping—Stitching Machines and Wire—

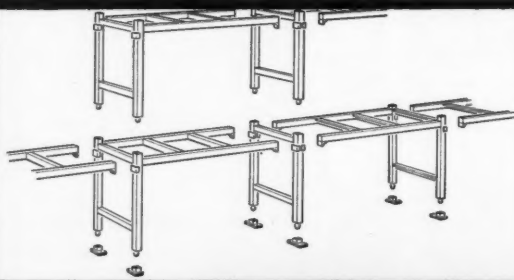
Venetian Blind Slat Stock—Corrugated Fasteners—Strip Steel

Circle No. 12 on Reader Service Card for more information



Keep your Storage Area Flexible

with MHS COLLAPSIBLE PALLET RACKS



Method of
assembling a bank
of MHS Collapsible
Pallet Storage Racks

MHS Collapsible
Pallet Storage Racks
in a warehouse



You can set up MHS Collapsible Pallet Storage Racks easily and quickly anywhere in the plant or warehouse. It takes only two men and they needn't be skilled.

You can add any number of units longitudinally and one or more tiers vertically at any time.

You can move these racks from place to place without damage. They never become obsolete.

Write for prices and specifications.

**Mechanical
Handling
Systems, Inc.**

4600 NANCY AVE. • DETROIT 12, MICH.
Offices in Principal Cities

In Canada: Canadian Mechanical Handling Systems, Ltd.



Circle No. 13 on Reader Service Card for more information



James H. W.
Conklin
Yale & Towne



W. T.
Rashleigh
Unistreet Products

department was announced recently. He succeeds **R. A. Dusseau** who is now assistant general manager. Previous to this last appointment, Hincker was associated with the Buda Co. In other promotions, **E. W. Gammell** becomes chief engineer of the Transporter department and **J. W. Tiskus** becomes assistant to the Automatic chief engineer.

... at International Paper Co.

R. I. LaMarche, sales manager for the Bagpak Division, announced that **C. H. Crain** has rejoined the company after a year of active duty with the U. S. Marine Corps. He has been assigned as a salesman in the Baltimore office.

... at C. & D. Batteries, Inc.

Two executives have been appointed to high posts. **John F. Rittenhouse** has been named executive vice president. Previously, he was vice president in charge of engineering. **H. E. Jensen** has been appointed chief engineer. He has been with C & D since 1950 as research and development engineer.

... at Yale & Towne

James H. W. Conklin has been appointed general sales manager of the Philadelphia Division, Yale & Towne Mfg. Co. He succeeds **James P. Kinney** who is taking over Yale & Towne's distributorship in Los Angeles and Southern California. Announcement of the change was made by **Elmer F. Twyman**, vice-president in charge of the division.

... at Unistrut Products Co.

W. J. Rashleigh has joined the company in an executive sales capacity. He has a wide background and experience in construction and in sales of industrial and electrical

Who Profits Most from the sale of a BAKER TRUCK?

MANUFACTURER?
TRUCK SALESMAN?
BUYER?

YOU BE THE JUDGE:

- Some time ago a **PUBLISHER** faced the need for more storage space. A Baker Truck saved him the cost of building a new warehouse by better utilization of available space, and in addition paid for itself out of savings in a few months by cutting handling costs.
- A **METAL FABRICATING PLANT** cut loading and unloading costs 75% with a Baker Truck. At the same time it eliminated the necessity for interrupting production to build a ramp and dock which would have cost the company many thousands of dollars more than the investment in the truck.
- A **CHEMICAL PLANT** quadrupled its volume without adding to its handling labor staff or warehousing capacity.
- A **SOFT DRINK BOTTLING PLANT** is saving \$4,000 per 24-hour day by improved handling methods with two Baker trucks.
- In a **STEEL WAREHOUSE**, 3 men and a Baker Truck now handle work formerly requiring 6, 8 and 10 men—often with overtime.

- A large **ELECTRICAL MANUFACTURER** saves \$10,000 per year in scrap-handling costs with this Baker Fork Truck with revolving head. The company earns an additional bonus of \$10,000 per year by getting a better price for the scrap when sold.



These are but a few of the thousands of case histories, proving that the Baker customer profits most. Our profit and the salesman's commission are relatively small, one-time earnings. But our customers earnings go on year after year—often for more than a quarter of a century on a single investment.

Let us demonstrate
HOW BAKER TRUCKS
CAN MAKE PROFITS FOR YOU

BAKER INDUSTRIAL TRUCK DIVISION


of The Baker-Raulang Company


1219 WEST 80th STREET, CLEVELAND 2, OHIO • In Canada: Railway and Power Engineering Corp., Ltd.

Baker[®] INDUSTRIAL TRUCKS

Circle No. 14 on Reader Service Card for more information

SPEEDS up to 6 mph


**Low-Lift, Rider-Type
ELECTRIC TRUCK**



**A FAST, LATERAL MOVER—
for LONG HAULS or CRAMPED AREAS**

Now . . . no more slowdowns on long hauls, stock picking, rail loading or unloading with the **RAYMOND** Low-Lift Electric Truck for single or double-face pallets.

This new **RAYMOND** Truck performs in narrow aisles and cramped quarters originally intended for hand lift trucks. It has the added advantage of high speeds plus riding comfort. It moves loads swiftly, smoothly up to 5 mph . . . travels up to 6 mph empty.

It's so maneuverable too . . . operates in truck trailers, boxcars, elevators and crowded production areas.

● **SPEEDS UP HANDLING** Features fast starting and stopping—short length—magic maneuverability. Speeds up long hauls, stock picking, loading and unloading.

● **ELIMINATES HAZARDS** Designed especially for riding comfort and safety. Operator rides in safe standing position, protected by metal guard. Result: safer handling, less strain and fatigue.

● **FAR MORE MANEUVERABLE** Has 200° turning radius—right-angle picks up and spots unit loads in aisles only 5 ft. wide, narrower than its own length with load.

● **OPERATES IN CRAMPED AREAS** Operates with ease inside truck trailers, boxcars, elevators—also in narrow aisles, crowded production areas.

● **SIMPLE TO MAINTAIN** All working parts are quickly accessible—major working assemblies easily removed from main unit for swift, simple bench repair.



SEND
TODAY

RAYMOND Low-Lift Electric Truck. Model EL4F for single and double-face pallets. Capacity 4,000 lbs. Model EL4P for skid platforms.



Electric Industrial Trucks
Hydraulic Elevating Equipment

The RAYMOND CORPORATION

Formerly LYON-Raymond Corporation

3362 Madison St., Greene, N.Y.

Gentlemen: Please send me Bulletin 750 on your new **RAYMOND** Low-Lift Electric Truck.

Name..... Title.....

Company.....

Street.....

City..... State.....

Circle No. 15 on Reader Service Card for more information



John G. Bucuss
Acme Steel Co.



S. C. Lloyd
Mechanical
Handling Systems

products. Announcement of Rashleigh's appointment was made by **George W. Butler**, president.

A new southeastern district sales office and warehouse have been opened in Atlanta, Georgia. **Brad Fogarty** has been appointed District Manager and will be responsible for sales and service in the southeast.

... at Mechanical Handling Systems, Inc.

W. V. Casgrain, president, announced the appointment of **S. C. Lloyd** as sales manager of the company's pre-engineered division, covering all standard material handling equipment. Lloyd was formerly connected with Rapids Standard Co. as regional manager for the southwestern region.

... at Acme Steel Co.

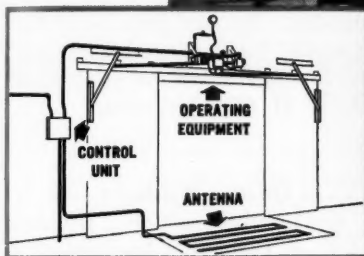
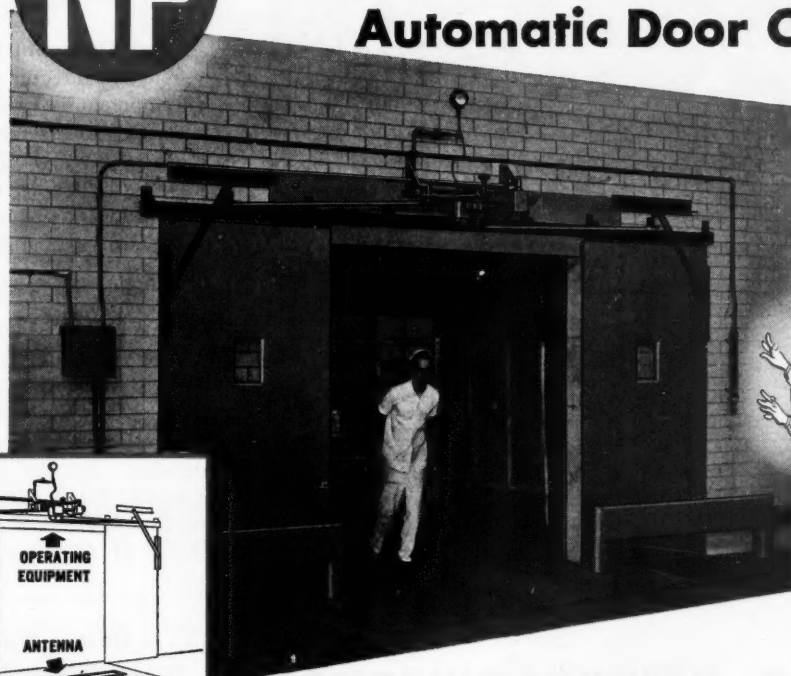
A new division, Acme Steel Products Division has been announced with **John G. Bucuss** as its president. The division will act as an independent sales and distributing company for steel strapping, tools, and accessories, stitching wire, and other products. Assisting Bucuss as vice president in charge of stitching wire is **F. Raymond Grove**. **Percy L. Dafoe** has been named vice president and general sales manager of the division.

... at Baker-Raulang Co.

The board of directors elected **Edwin W. Sankey** vice president and assistant to the president, and **John A. Matousek** vice president in charge of manufacturing. Sankey has been with the company since 1919 in various capacities and in

here's the most modern — most efficient automatic door operator ever!

the **NP** "Electro-Field" * Automatic Door Operator



dependable ... easily installed ... inexpensive!

National Pneumatic's new "Electro-Field" Automatic Door Operator is without question the finest door operating unit ever developed. It offers many important advantages over ordinary equipment, yet its cost is substantially less than even the conventional photoelectric type door operator.

The "Electro-Field" Automatic Door Operator employs a balanced high-frequency electrical system with a floor-installed antenna. Unbalancing of the electrical field by a person passing over the antenna actuates the operating equipment, thus opening the door. The door closes automatically after safe clearance, and door speed is retarded in time to avoid slamming. Timing is adjustable to individual requirements. Both opening and closing are positive-action operations, performed by air pressure.

NP's "Electro-Field" controls all types of sliding, swinging or folding doors. It is pre-piped and pre-wired for easy installation.

Doorways and approaches are kept perfectly clear, for no stanchions or uprights are used. The "Electro-Field" is precisely engineered and built to give long, trouble-free service. It stays in adjustment and requires minimum maintenance.

Made by National Pneumatic Company, for nearly fifty years the principal supplier of door control equipment for railroads and transit systems, where dependability is of paramount importance. NP also makes a fully automatic *Photoelectric Door Control*, and two types of semiautomatic door controls; *Electrical*, operated by push button switches, pull switches or foot switches; and *Pneumatic*, operated by push button valves, pull valves or foot valves.

Send coupon today for full information and engineering data.

*Trade Mark

NP NATIONAL PNEUMATIC CO., INC.

125 Amory Street, Boston 19, Massachusetts

WORLD'S LARGEST MANUFACTURER OF DOOR CONTROL EQUIPMENT

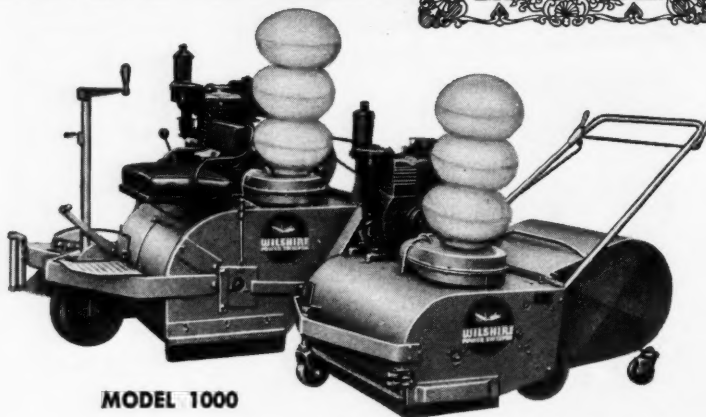
Circle No. 16 on Reader Service Card for more information

NATIONAL PNEUMATIC CO., INC.
125 Amory St., Boston 19, Mass.

Gentlemen: Please send me complete information on NP Automatic Door Operators.

NAME _____
TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

*Do you realize
how much it costs
you to operate
a broom?*



MODEL 1000

MODEL 800

WILSHIRE POWER SWEEPER CUTS YOUR SWEEPING COSTS 75% (A Free Demonstration Proves It)

A SIZE FOR EVERY PURPOSE

Four Models for sweeping swaths of 27", 36" and 48". For all types of sweeping, from light to heavy duty, with and without dust control. For sweeping inside or outside areas. Easy to operate; easy to maintain. A survey of your needs enables us to recommend the Model and Size best suited to your requirements. Write for a Free Demonstration.

WILSHIRE SWEEPS CLEANER — FASTER — SAFER

WILSHIRE Power Sweepers do a better job than you can do with a broom... and do it faster. They sweep right up to the walls and posts... down narrow aisles. Clean floors are safer, too. Less wear and tear on tires on mobile equipment; lower fire hazards; less danger of accident due to workmen slipping or stumbling. WILSHIRE Power Sweepers give you all these advantages... and more... for less than you are now paying to operate a broom. Let us prove it to you. No obligation.

SWEEPING THE COUNTRY
SINCE 1940



WILSHIRE POWER SWEEPER

526 West Chevy Chase Drive
Glendale 4, California

Circle No. 17 on Reader Service Card for more information

addition to his new duties remains as head of the purchasing department. Matousek was manager of manufacturing from 1949 until his present promotion.

... at Thermoid Co.

The new director of research and development is **Eric O. Ridgway**, according to an announcement by **Fred Schluter**, president. Ridgway was one of the partners in Ridbo Laboratories, a concern in which Thermoid has acquired controlling interest.

... at United States Rubber Co.

H. Barden Allison has been appointed sales manager of the Philadelphia Branch, mechanical goods division. He has been with the company for 23 years, his previous post being that of sales manager of the L. H. Gilmer division.

... at Quaker Rubber Corp.

Quaker Rubber Corp., Division of H. K. Porter Co., has appointed **J. J. Merkel** and **E. E. Klemm**, branch managers of the Detroit and Cleveland districts, respectively. Both men will assist their respective district managers in the operation of the sales office and warehouse.

... at Hyster Co.

Jay Misenhimer has been selected to fill the newly created post of manufacturing engineer. In this new job, Misenhimer will work closely with the design engineering department and his principal function will be to engineer and supervise assembly techniques and procedures.

... at American Pulley Co.

H. W. Gordon has been appointed district manager in the Northwest. His territory includes the states of Washington, Oregon, Montana, Idaho, and Wyoming and the provinces of British Columbia and Alberta, Canada.



HOW WOULD YOU PICK 'EM?

The Sultan's making a hard choice. But, in choosing conveying equipment, yours is even more ticklish. You want *permanent value* . . . the day in, day out assurance of dependable, economical performance. That means, of course, the right equipment to suit the job. Like Rapistan. You can be sure Rapistan recommendations are right for your needs. And, that Rapistan equipment is *Better 3 Ways*:

Rapistan flexibility gives you equipment adaptable to any floor plan; relocating the line is easy as moving furniture. *Rapistan quality* assures trouble-free service by the world's "strongest per pound" conveyors with many patented features. *Rapistan value* means low original cost, immediate savings in time, space and labor. Rapistan equipment pays for itself . . .

Better see Rapistan first!



TO HELP YOU: We will be pleased to send you a free 28-page book packed with ideas on how to solve your handling problems. If you desire, we will also survey your handling needs without obligation. Write today.

The RAPIDS-STANDARD CO., Inc.
685 Rapistan Bldg., Grand Rapids, Mich.

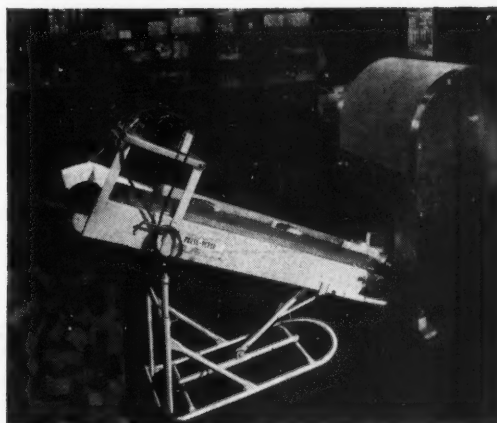
Rapistan®

BETTER CONVEYING EQUIPMENT

Representatives in Principal Cities

CONVEYORS • INDUSTRIAL CASTERS • WHEEL-EZY® TRUCKS

Circle No. 18 on Reader Service Card for more information



A UNIT of Rapistan equipment may smash a bottleneck for you. Here a Press-Veyor® moves finished product from machine direct to tote box, cuts time and labor handling costs. Whether you need an interfloor unit, a box car loader, or a length of the world's finest gravity conveyor . . . you'd better see Rapistan first!



A LINE of Rapistan equipment can solve a wide variety of problems. Here a portable Stevedore, Jr.® flows cartons continuously, dependably from gravity conveyor directly into the delivery truck. Fish, flowers or furniture . . . whatever you are moving, you'd better see Rapistan first!



AN ENGINEERED SYSTEM by Rapistan costs less because it's formed from combinations of "standard" units . . . not high priced "specials." It speeds output and cuts costs immediately. Manufacturer, wholesaler or retailer . . . if you have a tough handling problem, call on Rapistan engineers first!

ST. M.

NEWS VIEWS TRENDS

ARE YOU GETTING THE MOST OUT OF YOUR CONVEYORS? Or do you know about all the different types of conveyors for those "specialized handling jobs"? If you answer no to either of those questions, take a look at Part I of a survey report on conveyors that appears in this issue. This installment is on conveyors for packages and other units. Next month's article will deal with conveyors for handling bulk materials.

A JOINT ARMY, NAVY AND AIR FORCE MANUAL on packaging and packing military supplies is available from the Government Printing Office, Superintendent of Documents. It costs \$1.75 per copy. In sending for it, refer to one of these designations: Army publication TM 38-230, Navy Publication NavExos P-938, or Air Force Publication AFM 71-1.

THE THIRD PLANT MAINTENANCE CONFERENCE is to be held concurrently with the Plant Maintenance Show at Convention Hall, Philadelphia, Jan. 14-17. Upwards of 10,000 maintenance executives are expected to attend the show and conference.

WHETHER IT'S BANANAS OR BOXES that you handle, there's a story in this issue designed for all those who handle food—either fresh produce or cased goods. The name of the story: "16 Ways To Handle Food." And there are some good ideas for people in other fields as well.

BECAUSE MATERIAL HANDLING ACCOUNTS FOR ALMOST HALF THE COST of a finished product, Wayne University, in cooperation with several industrial groups is setting up an educational center for product handling, packaging and warehousing. It will research new methods for cutting handling costs and help turn out trained technicians for the material handling field. The school has already set aside approximately 70% of the cost of the project. About \$60,000 annually will be added by business and industry.

FLEXOID CONVEYOR CO. a new subsidiary of the Smith Power Transmission Co. has been set up to manufacture and sell conveyors. The immediate territory covered will include the north central and easterly part of Ohio, but distributors will make its products and services available outside that state.

THE THIRD MATERIAL HANDLING CONFERENCE will be held at Purdue University, Monday and Tuesday, Feb. 25 and 26. Chairman of the committee on arrangements is Colonel O. S. Hulley of the university's industrial engineering staff. General theme of the meeting will be based on the level of policy-making personnel in the material handling field. New developments and more adequate use of existing facilities will be given special attention.

MORE THAN 1,000,000 LB. OF NON-PRODUCTION SCRAP METAL was salvaged for the country's defense production and returned to steel mills by the Yale & Towne Manufacturing Co. in 1951. This was in addition to the thousands of tons of the usual process scrap consisting of chips and turnings. The extra salvage is the equivalent of 107,012 bazookas or 13,376 fifty calibre heavy machine guns.

WALTER E. SCHIRMER, VICE-PRESIDENT OF CLARK EQUIPMENT CO. has been elected president of the Industrial Truck Assn. for 1952. Prentice Borden, general manager, Crescent Truck Co. has been elected vice-president of the group. W. A. Meddick, John R. Morrill, and C. E. Smith have been appointed to a constitution revision committee.



***Mono-Cushions*® cut the cost of bumps**



MONO-CUSHIONS ARE EASY ON MAINTENANCE MEN—These big, burly cushion tires literally soak up jolts and shock, reducing maintenance as much as 40% on driving trains, steering assemblies, bearings, and all parts of the vehicle affected by shock and shock load.

Mono-Cushions are easy on loads, floors, and drivers, too. They cushion the ride both ways, reducing load breakage and floor wear. They ride beautifully, handle beautifully, keeping drivers comfortable and alert. Mono-Cushions are sure-footed, stable on the high lifts.

The leading manufacturers of materials handling vehicles use Monarch Tires as original equipment. The manufacturer of your vehicles can supply you, through his distributors, with Monarch Tires engineered for your application.



**THE
MONARCH
RUBBER COMPANY**

501 LINCOLN PARK • HARTVILLE, OHIO

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

Circle No. 19 on Reader Service Card for more information



DODGE
SOLID STEEL CONVEYOR PULLEYS



So-o much Simpler!

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Equipment" in your classified telephone directory.



- The pulley for *modern* belt conveyors.
- Drum type construction provides maximum strength with minimum weight.
- Interchangeable hubs simplify installation, positioning, removal — insure better conveyors at *less* cost.
- Accurately formed. Uniform rim thickness. Fully enclosed — to exclude dust, dirt, water.
- Diameters 6 in. to 8 ft., all face widths. Popular sizes stocked by our distributors.

DODGE MANUFACTURING CORPORATION
2300 Union Street, Mishawaka, Indiana

FIRST
IN POWER TRANSMISSION
MACHINERY!



V-BELTS AND TAPER-LOCK SHEAVES



TORQUE-ARM SPEED REDUCERS



DODGE-TINKER PILLOW BLOCKS



ROLLING GRIP AND DIAMOND D CLUTCHES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY,
CHICAGO THRIFT-ETCHING CORPORATION, 1555 SHEFFIELD AVENUE, CHICAGO, ILLINOIS
Circle No. 20 on Reader Service Card for more information



World Interest to **SPOTLIGHT...**



Whether you attend the A.F.S. International Foundry Congress and Show as a visitor, or whether your firm exhibits in the industry-wide Foundry Show, you can be sure of one thing . . . you will find the most influential elements of the foundry field gathered under one roof for a seven-day meeting that will attract the interest of the entire foundry world.

The appeal of this International Foundry Congress and Foundry Show stems from not one but, rather, the correct combination of events . . . technical sessions, round-table meetings, division luncheons and dinners, social events and hundreds of foundry product and service exhibits that will reflect the latest developments pertaining to modernization and economy of production in the foundry.

Technical sessions and exhibits complement each other—one tells the industry how the newest developments pertaining to cast metals are accomplished, the other shows industry equipment most adaptable for economy, efficiency and speed of operation in making these developments practical every-day applications.

Here is a combination, therefore, that benefits an industry—a "team" that keeps the products of that industry in a position to compete in today's market and to figure prominently in tomorrow's progress. Being a part of such a winning combine through participation in the A.F.S. International Foundry Congress and Show is your bid for progress and industry recognition.

"EVERY Foundry in '52" will BE THERE!

Atlantic City—May 1-7, 1952

AMERICAN FOUNDRYMEN'S SOCIETY

616 SOUTH MICHIGAN AVENUE
CHICAGO 5, ILLINOIS

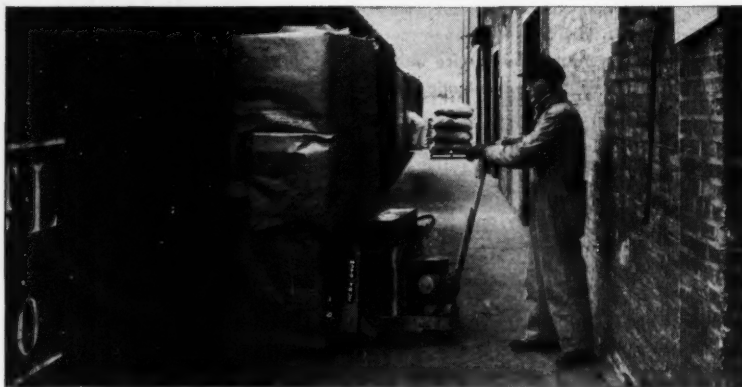


Save 68%

OF DOCK HANDLING TIME*

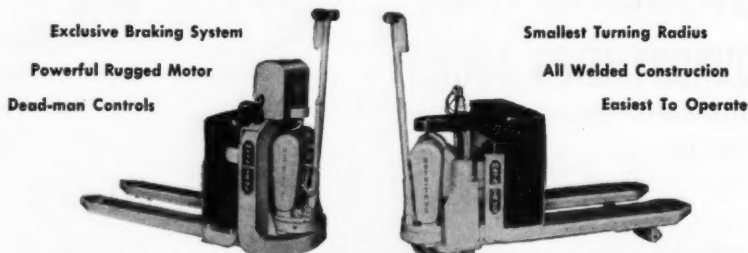
with MOTO-TRUCS

* "A U. S. Navy Materials Handling Laboratory estimates that mechanized handling can cut 68% of the man hours needed for loading freight cars."



A "twist of the wrist" does it.

One user of 8 Moto-Truc Walkies, reduced the man hours unloading a boxcar from 16 to 4. Viz.—One man with a Moto-Truc Pallet now does in 4 hours what formerly took 2 men 8 hours with former methods.



MOTO-TRUC'S 6 BASIC MODELS ARE QUICKLY ADAPTABLE TO ANY PROBLEM IN THE WALKIE FIELD.

DON'T BE SATISFIED WITH LESS THAN THE BEST.

THE MOTO-TRUC CO.

SEND FOR
Bul. No. 51

1953 E. 59th STREET • CLEVELAND 3, OHIO
PALLET, PLATFORM AND HI-LIFT TRUCKS
LARGEST EXCLUSIVE MANUFACTURER OF "WALKIES"



Circle No. 22 on Reader Service Card for more information

NEWS FROM THE SALES FIELD . . .

(Continued from page 10)

Albert J. Stohr has joined the sales organization of the Ohio Equipment Co., Cleveland. He has had 17 years experience in the sale of material handling equipment in the Ohio and Pennsylvania territory.

Rocke International Corp., the New York export department of Lynch Corp. has taken over the export activities of Lynch's packaging machine division. Located at 13 E. 40th Street, New York, the export firm is headed by Arthur Rocke, president.

John R. Morrill, Vice-President, Baker Industrial Truck Division of the Baker-Raulang Co. announced the appointment of W. T. Billard, Inc., 734 East Third Street, Los Angeles as the Baker representative in Southern California and Arizona. Billard also represents American Engineering Co., Conco Engineering Works, Darnell Corp., Ltd., Harry J. Ferguson, Co., Raymond Corp., and Thomas Truck & Caster Co.

Charles W. Meldram has been appointed vice president in charge of sales at Bond Industrial Equipment Sales Co. He has been with the organization for three years as sales manager and has over 15 years experience in the material handling field. Bond is a distributor of Clark material handling equipment.

DOUBLES STORAGE CAPACITY

with Adjustable

UNISTRUT® PALLET RACKS

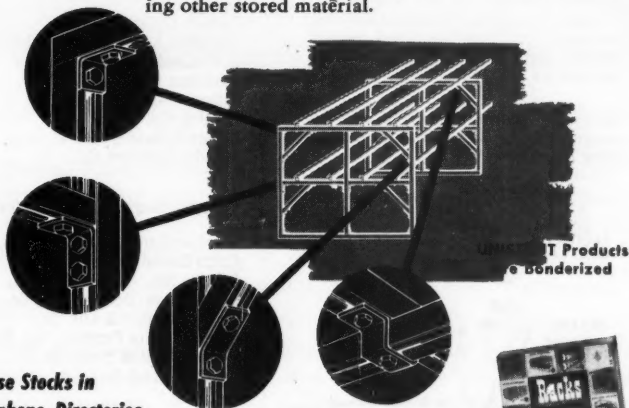
**CONSERVES STEEL
REDUCES MANPOWER HOURS
CUTS OVERALL COSTS**



UNISTRUT pallet racks speed order filling, permit safer handling of stock, simplify inventory problems for Wm. H. Ziegler Co., Inc., distributors of construction and industrial equipment and supplies. These racks have more than doubled available storage capacity in their Minneapolis warehouse.

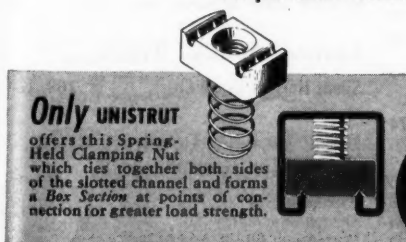
Photo shows how space is saved by 4-tier double entry UNISTRUT pallet racks—how, with fork lift truck, stock is quickly removed from any section without disturbing other stored material.

Sketch shows construction of a typical UNISTRUT single pallet rack stanchion and close-up views of fittings and connections. With UNISTRUT framing there is no drilling, no welding, no special tools or equipment needed. Engineering is simplified—all you do is cut channel to size and bolt fittings in place. Whether you are building a small or a large rack, the UNISTRUT system is easy to work with, completely adjustable, provides great strength without bulk.

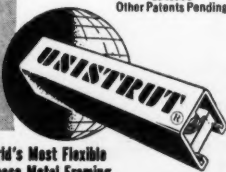


**Representatives and Warehouse Stocks in
Principal Cities—Consult Your Telephone Directories**

**WRITE FOR FREE 24-PAGE
RACK CATALOG NO. 600**



Only UNISTRUT
offers this Spring-Held Clamping Nut which ties together both sides of the slotted channel and forms a Box Section at points of connection for greater load strength.



**The World's Most Flexible
All-Purpose Metal Framing**

U. S. Patent Numbers
2327587 2329815
2345650 2363382
2380379 2405631
2541908
Other Patents Pending

UNISTRUT PRODUCTS COMPANY

1013 W. Washington Blvd., Chicago 7, Ill., Dept. A-1.

Please send the items checked below, without obligation:

☐ Rack Catalog No. 600 ☐ UNISTRUT Sample

NAME _____

COMPANY _____

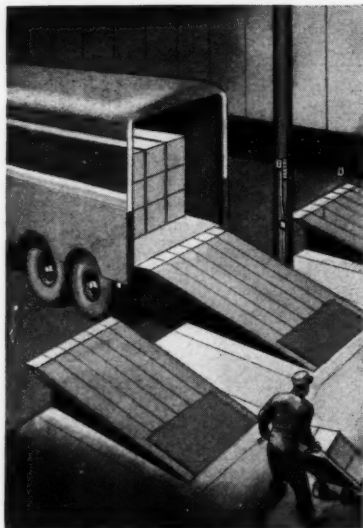
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Circle No. 23 on Reader Service Card for more information

BEACON

3-DIMENSIONAL DOCK BOARD



A new unit providing a ramp from dock to truck bed that compensates for the differential of level between these points. . . . Three dimensions, vertical, horizontal and lateral. . . . Finger tip control, providing safe, dependable operation, bringing smiles to the face of your safety engineer.

Cuts your loading time 25% and increases present dock capacity without using a wall stretcher.

- FACTORY MANAGER**  *cuts overhead, handles more traffic*
- TRAFFIC MANAGER**  *more freight handled —25% less time*
- HANDLER**  *I can load or unload any truck or frate car —easy to operate*
- SAFETY ENGINEER**  *it's safe—no accidents —no danger of overload*
- SHIPPER**  *saves me money too —less breakage*

BEACON MACHINERY, INC.
P.O. BOX 188, EAST ST. LOUIS, ILLINOIS

An Easy Index to This Month's Advertisers

Looking for a particular type of equipment? Listed below are the advertisers in this issue according to the type of product they manufacture. While each company is not listed under every product they make, we have attempted to make your job a little easier by listing them as often as possible.

Because of space limitations, we were forced to list some companies under the category "Specialized Equipment". Under this classification you will find such items as motors, hydraulic tail gates, powered barrows, line markers, etc. We suggest that for any equipment other than that listed under the main headings, you consult the advertisers under this category.

And for additional information on all types of material handling equipment, be sure to use the Reader Service Card for data found in the new product and free literature sections of this issue.

Accessories, Industrial Trucks

Milsco Mfg. Co.	110
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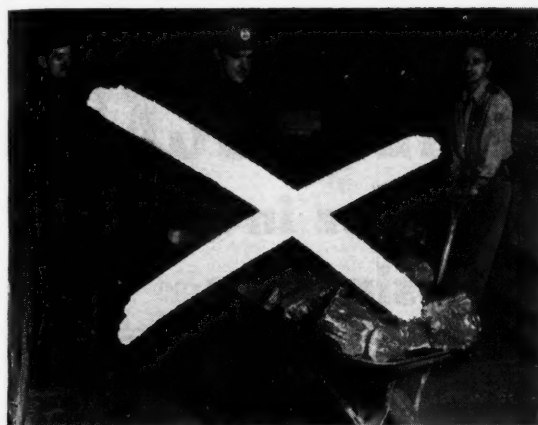
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FLOW



PAYLOADER

**Slashes
Unloading
Costs
91%**



* A complete report on Timken's use of "PAYLOADERS" for bulk material handling is found in Vol. 1, No. 3 of INDUSTRIAL HANDLING. Copy of this is available for the writing. Literature on any of the "PAY-LOADER" models is also available, without obligation: the 12 cu. ft. Model HA, the 15 cu. ft. Model HAH, the 1/2 yd. HE, the 3/4 yd. HF, the 1 1/4 yd. HY or the big 4-wheel drive Model HM.

At Timken Roller Bearing Company,* three men, with hand shovels and wheelbarrows, used to work hard for 20 hours to unload a 50 ton car of heavy lump ferromanganese. Now, one man on the "PAYLOADER" tractor-shovel does the job easily in 5 hours — so that unloading time is reduced 75% and manhours are reduced 91%. This is only one example in hundreds where the "PAYLOADER" has effected amazing savings in time, labor, and costs . . . in loading, unloading, transporting, piling, spreading, and dumping all kinds of bulk materials.

This distinctive tractor-shovel is completely Hough-built *expressly for tractor-shovel work*, with superior features that insure more production and satisfaction — such advantages as several speeds in BOTH directions, and large pneumatic tires that work on ground or floors. If *you* have bulk material handling problems "PAYLOADERS" can probably help you solve them. The Frank G. Hough Co., 731 Sunnyside Ave., Libertyville, Illinois.



PAYLOADER®

THE FRANK G. HOUGH CO. • Since 1920



Circle No. 25 on Reader Service Card for more information

HYSTER® INDUSTRIAL TRUCKS

are at work in *Every* major industry ...in thousands of businesses

Firms all over the world are slashing materials handling costs with Hyster Fork-type Lift Trucks, Straddle Trucks, Karry Kranes and Turret Trucks . . . Other costs go up but materials handling costs CAN go down.

In 1951 (even exclusive of government orders) Hyster industrial truck volume was the

largest in Hyster history. Hyster sales (again exclusive of government orders) are nearly equally divided between present Hyster owners and entirely new owners.

REPEAT BUSINESS means customer satisfaction. NEW BUSINESS proves customer preference.

Here is a partial list of businesses in which Hyster trucks are saving time, money, manpower. If your business is listed, we can give you up-to-date materials handling information. See your Hyster dealer or write direct to us.

- | | | | |
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| <input type="checkbox"/> ABRASIVE MFG. | <input type="checkbox"/> DEPARTMENT & MAIL ORDER STORES | <input type="checkbox"/> MINING, COAL | <input type="checkbox"/> RAILROADS |
| <input type="checkbox"/> AIRCRAFT & AIRCRAFT PARTS MFG. | <input type="checkbox"/> ELECTRICAL EQUIPMENT MFG. | <input type="checkbox"/> MINING, METAL | <input type="checkbox"/> RAILROAD CAR & EQUIPMENT MFG. |
| <input type="checkbox"/> AIRLINES | <input type="checkbox"/> ELECTRICAL GOODS WHOLESALERS | <input type="checkbox"/> MINING, NON-METALLIC | <input type="checkbox"/> RUBBER PRODUCTS MFG. |
| <input type="checkbox"/> APPAREL MFG. | <input type="checkbox"/> ENTERTAINMENT, AMUSEMENT FIRMS | <input type="checkbox"/> MINING EQUIPMENT MFG. | <input type="checkbox"/> RUG & CARPET MFG. |
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| <input type="checkbox"/> AUTO SUPPLIES, PARTS WHOLESALERS | <input type="checkbox"/> FISH PACKERS | <input type="checkbox"/> OIL FIELD EQUIPMENT MFG. | <input type="checkbox"/> SCREW PRODUCTS MFG. |
| <input type="checkbox"/> BAKERIES | <input type="checkbox"/> FOOD DEHYDRATORS, PROCESSORS | <input type="checkbox"/> ORDNANCE MFG. | <input type="checkbox"/> SEED & FEED WHOLESALERS |
| <input type="checkbox"/> BOAT AND SHIPBUILDING | <input type="checkbox"/> FOUNDRIES | <input type="checkbox"/> OXYGEN, ACETYLENE & GAS MFG. | <input type="checkbox"/> SOAP MFG. |
| <input type="checkbox"/> BOILER AND TANK MFG. | <input type="checkbox"/> FRUIT & VEGETABLE CANNERIES | <input type="checkbox"/> PAINT & VARNISH MFG. | <input type="checkbox"/> STEEL WAREHOUSING |
| <input type="checkbox"/> BOTTLING, SOFT DRINK MFG. | <input type="checkbox"/> FURNITURE MFG. | <input type="checkbox"/> PAPER & PULP PRODUCTS MFG. | <input type="checkbox"/> STEVEDORING |
| <input type="checkbox"/> BOTTLING & BEVERAGE WHOLESALERS | <input type="checkbox"/> GLASS MFG. | <input type="checkbox"/> PAPER BOX MFG. | <input type="checkbox"/> STOVE MFG. |
| <input type="checkbox"/> BREWERIES, DISTILLERIES, WINERIES | <input type="checkbox"/> GOVERNMENTAL ORGANIZATIONS | <input type="checkbox"/> PAPER BAG MFG. | <input type="checkbox"/> SUGAR & CONFECTIONERY MFG. |
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| <input type="checkbox"/> BUS LINES | <input type="checkbox"/> HAND TOOL MFG. | <input type="checkbox"/> PLASTICS MFG. | <input type="checkbox"/> TOBACCO MFG. |
| <input type="checkbox"/> CEMENT MFG. | <input type="checkbox"/> HARDWARE MFG. | <input type="checkbox"/> PLATING & PAINTING | <input type="checkbox"/> TOBACCO WHOLESALERS |
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| <input type="checkbox"/> CHEMICAL MFG., GENERAL | <input type="checkbox"/> LAUNDRIES & BLEACHERIES | <input type="checkbox"/> PLYWOOD MFG. | <input type="checkbox"/> TRUCK LINES |
| <input type="checkbox"/> COMMERCIAL FARMS | <input type="checkbox"/> LEATHER PRODUCTS MFG. | <input type="checkbox"/> POULTRY PROCESSORS | <input type="checkbox"/> UPHOLSTERERS & MATTRESS MFG. |
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| <input type="checkbox"/> CONCRETE PRODUCTS MFG., GEN'L | <input type="checkbox"/> LUMBER SAWMILLS & PLANING MILLS | <input type="checkbox"/> PUBLIC UTILITIES | <input type="checkbox"/> WIRE ROPE & CABLE MFG. |
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| <input type="checkbox"/> COTTON & TEXTILE WHOLESALERS | <input type="checkbox"/> MACHINERY & EQUIPMENT MFG. | | |
| <input type="checkbox"/> COTTON OIL MILLS | <input type="checkbox"/> METAL & STRUCTURAL STEEL MFG. | | |
| <input type="checkbox"/> DAIRY PLANTS | <input type="checkbox"/> METAL STAMPERS | | |

HYSTER COMPANY

THREE FACTORIES

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1831 NORTH ADAMS STREET . . . PEORIA 1, ILLINOIS
1031 MEYERS STREET DANVILLE, ILLINOIS



HYSTER 20 (2,000 lbs. capacity). One of 5 fork-type models from 2,000 to 15,000 lbs. cap.



HYSTER STRADDLE TRUCK®. Two models of 18,000 and 30,000 lbs. capacity.



HYSTER KARRY CRANE®. Versatile mobile crane with 10,000 lbs. hoisting and transporting capacity.



HYSTER TURRET TRUCK. Horizontal transporting unit. 4,000 lbs. capacity. 4 models.

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Fork Trucks, Powered Platform Trucks

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Pallets, Skids, Skid Bins (Wood & Metal)

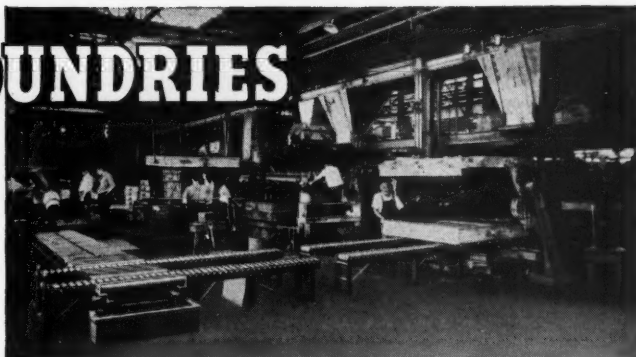
Arkansas Pallet Co.	126
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Industrial Pallet Co.	122
Ironbound Box & Lbr. Co.	118
L & H Wood Mfg. Co.	108
Palmer-Shile Co.	128
Powell Pressed Steel Co.	6 & 7
Williford Mfg. Co.	73

Racks

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Paltier Corp.	80
Powell Pressed Steel Co.	67
Unistrut Products Co.	25

(Turn to page 78)

FOUNDRIES



FRUIT-PACKERS



FLOUR and FEED



Standard builds conveyors of many kinds and types for a wide range of industries...

Knowing how to put conveyors to work to best advantage in your business or industry is equally important to Standard Conveyor as building the best conveyors.

An experience record of more than 45 years, building conveyors for industries as highly diverse as those pictured above, means that Standard Conveyor can serve you right — with the right type of conveying equipment for your particular needs — a complete engineered conveyor system or an individual, portable conveyor unit. Write —

STANDARD CONVEYOR COMPANY

General Offices: North St. Paul, Minnesota
Sales and Service in Principal Cities

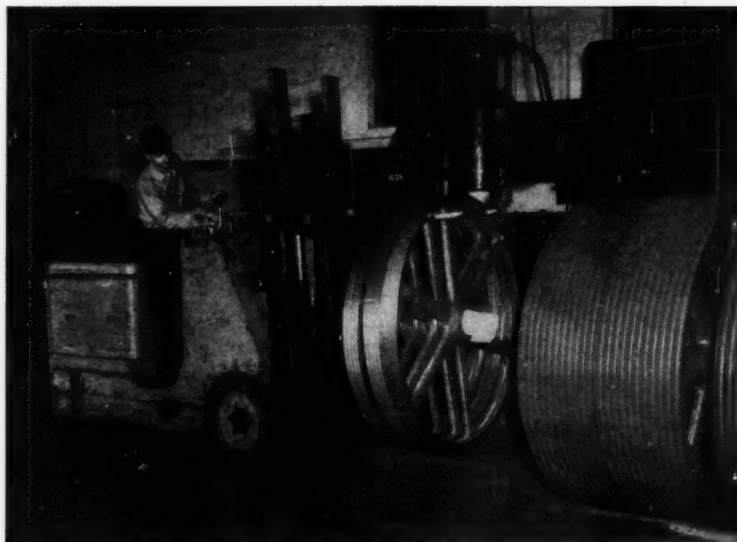


Write to Dept. FL-12 for valuable reference book "Conveyors by Standard" and tell us what you want to convey.

Standard
GRAVITY & POWER
CONVEYORS

ROLLER • BELT • SLAT • CHAIN • WHEEL
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VERTICAL LIFTS • PNEUMATIC TUBE SYSTEMS

for more information Circle No. 27 on Reader Service Card



Characteristics That Precisely Fit the Needs

A material-handling industrial truck makes as many as 45 stops and starts per minute—ahead, back, up, down. For operating efficiency, it requires instant power for starting and acceleration but should consume no power during the stops and the preceding coasting and braking intervals.

The kind of power that precisely meets these needs is **ELECTRIC POWER** supplied by an **EDISON Nickel-Iron-Alkaline Storage Battery** and applied by a high-torque d-c **ELECTRIC MOTOR** through instant on-off controls. And the battery-charging current, produced wholesale by a central station, is the lowest-cost power available.

EDISON batteries have cells of steel, an alkaline electrolyte that preserves steel and foolproof operating principle. They accept charge rapidly; are not injured by overdischarging . . . by freezing . . . by standing idle . . . by short-circuiting, reverse charging or

other electrical accidents. They are the longest-lived of all types of batteries—so long lived, in fact, that they make big savings in depreciation costs per year. They are so trouble-free that they not only cut maintenance costs; they prevent unscheduled down-time of the truck. When exchanged at convenient intervals, they afford round-the-clock power for the truck with the nth degree of dependability.

ELECTRIC MOTORS bring to industrial-truck operation the same trouble-free dependability that they afford in stationary machine drives. They also give quieter, cleaner, safer truck operation than any other kind of power. For more information send for free copy of our bulletin *Modern Material Handling* which analyses the power requirements of handling work. Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, N. J. Thomas A. Edison of Canada, Limited, Montreal.

You can always rely on



EDISON

Nickel-Iron-Alkaline Storage Batteries

Circle No. 28 on Reader Service Card for more information

literature featured in ads

A new catalog is available on the Alexander Elevator Sill. Here's a sill which attaches to the building floor landing of each door opening and functions like a drawbridge automatically with the opening and closing of doors. Alexander Sill Co. will tell you about it.

Circle No. 86 on Reader Service Card

You can bring conveyors right to the job regardless of obstacles in the way if you do it the Flex-Co way says Berlin Chapman Co. in a booklet offered to you. If you are interested in extending your conveyor lines where never before possible you will want to see this literature.

Circle No. 87 on Reader Service Card

A 68-page catalog on casters is yours for the asking from The Colson Corp. No matter how modern or streamlined your truck fleet, it is no better than the wheels and casters it rolls on. It will pay you to investigate.

Circle No. 50 on Reader Service Card

There are three sizes of Ideal Stenciling Machines available to suit your particular need. They are described in the Ideal shipping guide along with other products of this company.

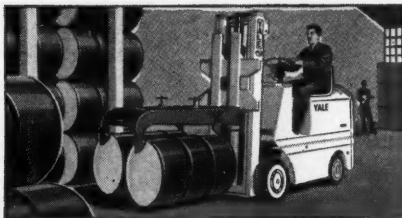
Circle No. 78 on Reader Service Card

The complete line of Downs Crane Wheels and assemblies are illustrated and described in catalog No. 3540 of the Downs Crane & Hoist Co. Get your copy now.

Circle No. 109 on Reader Service Card

For Battery charging information to help you get more efficient and

STOP



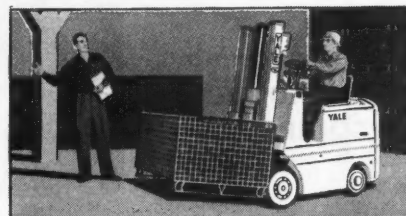
START



STOP



START



HERE'S HOW YALE 3-POWERED ECONOMY LICKS DOWN-TIME COSTS

Only Yale has Fluid Drive . . . saves the life of the Clutch and delivers smooth, unfailing power at any speed.

Only Yale has 65 HP 6-cylinder engine, cushion-mounted for less vibration, runs cooler and gives full floating power at all times.

Only Yale has Hypoid Gearing, fully enclosed, protected against dirt and other sources of wear; "floating" axles absorb road shock.

See how YALE 3-powered economy can cut gas truck operation costs for you. Get the whole story NOW. Send for free detailed book.

YALE & TOWNE

The Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

YALE is a registered trade mark of The Yale & Towne Manufacturing Co.

Only YALE gas trucks are engineered to take daylong punishment like this

CONSTANT STOPS and starts, heavy-load maneuvering, different operators and thru-shift service—this kind of punishing service builds up heat and wear—"lays up" most gas trucks for many days of idleness every year. *Exclusive YALE engineering* licks these major down-time factors . . . equips YALE Gas Trucks for more continuous all-out performance on the toughest handling assignments.

MAIL THIS COUPON TODAY

The Yale & Towne Manufacturing Co., Dept. 41
Philadelphia 15, Pa.

Please send me your free new detailed bulletin, THE YALE GAS TRUCK

COMPANY _____

NAME _____ TITLE _____

STREET _____

CITY _____ STATE _____

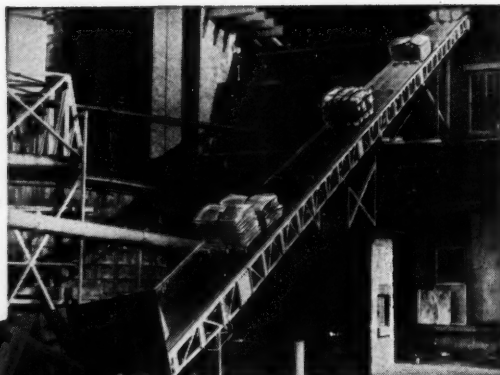
In Canada write: The Yale & Towne Manufacturing Co., St. Catharines, Ontario

YALE GAS AND ELECTRIC TRUCKS • YALE WORKSAVERS • YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS

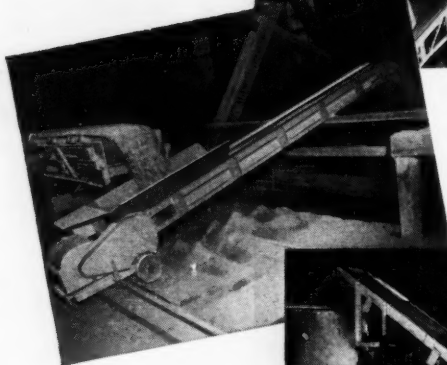
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largest
PACKAGE
HANDLING ...



... to the toughest
BULK MATERIAL
HANDLING

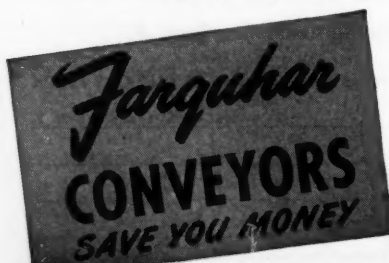


to the
most exacting
INDIVIDUAL
REQUIREMENT...



You can't beat **FARQUHAR** for money-saving **CONVEYORS!**

Farquhar offers you permanent, semi-permanent or portable conveyors for every materials handling requirement... *with no substitutions in recommendations!* Whether you handle packaged items such as crates, boxes, bales, bags... bulk materials such as coal, coke, foundry sand, fertilizer, chemicals, etc... whether you load, unload, stack, pile, move materials horizontally or from floor to floor... you can save *time, labor, manpower, money* with Farquhar Conveyors! There's no guesswork with Farquhar... we've got what you need!



WRITE for complete information to:
A. B. FARQUHAR CO., Conveyor Division,
Dept. J-06, 142 N. Duke St., York,
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WORLD'S MOST COMPLETE
CONVEYOR LINE

HYDRAULIC PRESSES • FARM EQUIPMENT • FOOD PROCESSING AND SPECIAL MACHINERY

Circle No. 30 on Reader Service Card for more information

reliable battery charging at lower cost you will want to read a series of bulletins offered by the Electric Products Co. They're free.

Circle No. 132 on Reader Service Card

The Lodover overhead loader eliminates 1200 turns in a normal eight-hour shift. Service Supply Corp. will send you a booklet telling how to increase tractor-shovel production and to decrease tractor-shovel maintenance.

Circle No. 59 on Reader Service Card

Chances are that any door Ali Baba opened by saying "Open Sesame" was probably equipped with the Electro-Field Automatic Door Operator. National Pneumatic Co., Inc. will send you complete information.

Circle No. 16 on Reader Service Card

Helpful data on the many bulk handling jobs that Prime-Mover does is yours for the asking. Circle the number below to find out how you can get valuable help in your good housekeeping program.

Circle No. 58 on Reader Service Card

When you repair your pallets, be sure to use the right kind of nails to insure a clean, long lasting job. Nail and Wire Fabricators, Inc. will send you samples and complete information.

Circle No. 82 on Reader Service Card

Big savings can be had through use of Stanley Steel Strapping. The Stanley Works, Steel Strapping Div. has full information for you.

Circle No. 80 on Reader Service Card

If you would like help in selecting your conveyor you will profit from the booklet "How to Order Correct

Two ways **REVOLVATOR** helps lift production and profits

... SPEEDS UP THE WHEELS OF YOUR BUSINESS

The pulse of your business is movement . . . the rapid moving of materials from one point to another in your plant. You can do this vital job faster . . . keep the wheels turning with less manpower and at lower cost by using Revolvator Go-Getter and Red Giant Pallet Trucks.

There are two good reasons why they help lift production and profits: (1) Revolvator offers a host of *money-saving, exclusive features*. (2) Each unit is *custom-designed* to your special needs. And you will be pleased at the prices of these quality "jack-of-all-lifts."

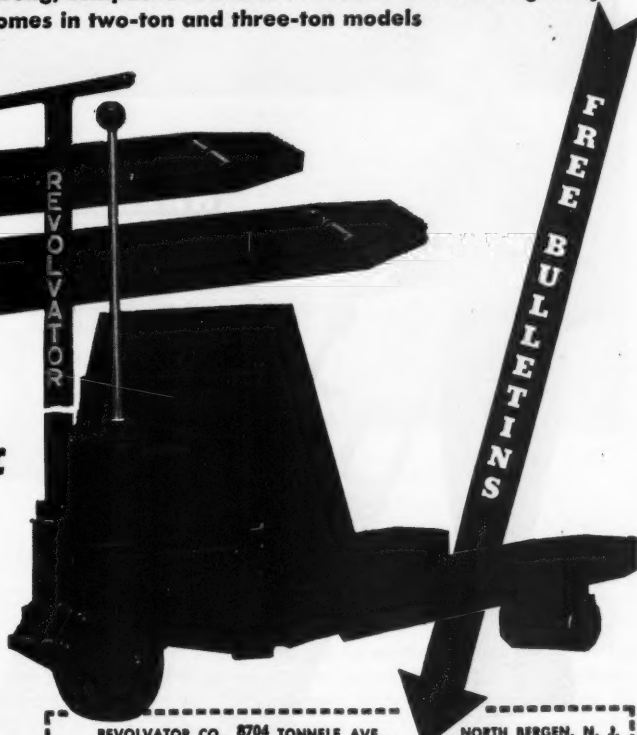
GO-GETTER Electric Pallet Type LIFTRUCK

- Power-operated . . . gives one man the strength of five
- Lifts full four inches in only four seconds
- Drops loads gently and quietly
- Braking is safe and easy
- Offers extra maneuverability due to 200° turning arc
- Strong, compact and stable . . . has low center of gravity
- Comes in two-ton and three-ton models



RED-GIANT Hydraulic Hand PALLETRUCK

- Easy to push, easy to pull
- Slide planes lift or lower forks for smooth entry into or exit from pallets
- Handle pumping is simple . . . quick
- Needs little effort
- Comes in one-ton and two-ton models



REVOLVATOR CO.

DESIGNERS AND MANUFACTURERS OF
MATERIAL HANDLING EQUIPMENT • SINCE 1904
8704 TONNELE AVE., NORTH BERGEN, N. J.

REVOLVATOR CO., 8704 TONNELE AVE., NORTH BERGEN, N. J.

Without obligation, please send bulletins on

- ☐ Go-Getter Electric Pallet-Type Liftruck
☐ Red Giant Hydraulic Hand Pallettruck

Name

Position

Company

Address

RE-108

Circle No. 31 on Reader Service Card for more information

HALLOWELL "UNI-TRUKs" MAKE TOUGH JOBS EASY

- All-steel, all-welded construction eliminates dead weight, reduces maintenance.
- Ribbed angle nose takes more weight without bending, makes pickups easier.
- Concave cross members accommodate drums, bags, cartons, rolls, kegs, etc.
- "UNI-TRUKs" roll more freely, handle more easily.
- Available in two models: #720 with 6" ball bearing, rubber treaded wheels, and a load rating of 350 pounds, #730 with 6" ball bearing, rubber treaded wheels, and load rating of 350 pounds. Both models are also available with 5" plain bearing, all-rubber wheels. Load rating is 250 pounds. Stair climbers can be furnished when desired.



HALLOWELL
®

Write for descriptive bulletin 789.
STANDARD PRESSED STEEL CO.,
Jenkintown 49, Pennsylvania.

HALLOWELL MATERIALS HANDLING DIVISION

SPS
JENKINTOWN PENNSYLVANIA

Circle No. 32 on Reader Service Card for more information

Size Conveyor" offered by Speedways Conveyors, Inc.

Circle No. 95 on Reader Service Card

Sponge Rubber Products Co. can tell you how to pack a delicate product for shipment anywhere. Literature is available on Spongex cellular rubber and Texlite rubberized hair.

Circle No. 73 on Reader Service Card

All of Truscon Steel Co.'s Steel Boxes and Skids are described and illustrated in a new bulletin. Whatever your problems, they have a product which is designed for you.

Circle No. 35 on Reader Service Card

Thermoid Co. offers to help you with your power belting problems. Whether you need multi-V, F.H.P., or flat transmission belts, it will pay you to investigate this company's products.

Circle No. 11 on Reader Service Card

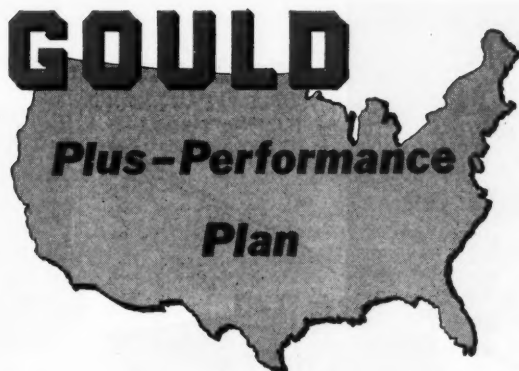
Tell Standard Conveyor Co. what you want to convey, and it will tell you the best way to do it. There are 45 years of experience behind Standard's advice. You will want the reference book, "Conveyors by Standard".

Circle No. 27 on Reader Service Card

Samples and prices of Central Fibre Products Co., Inc. packing spacers will be sent to you if you circle the number indicated below on the inquiry card. Spacers come as cylinders, blocks, or hard or soft rolls.

Circle No. 79 on Reader Service Card

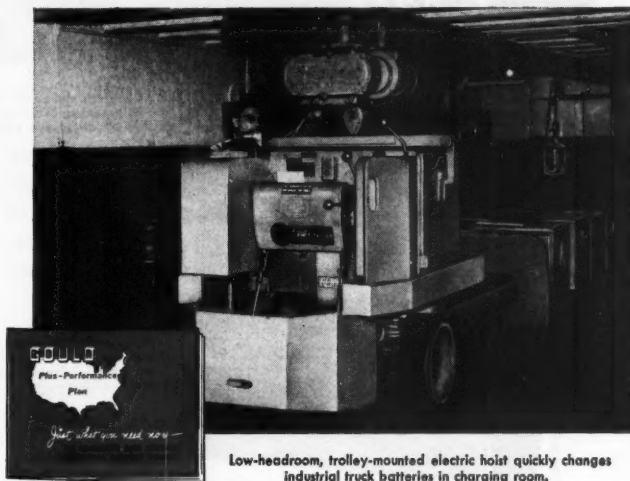
"Hi-Speed" conveyors are described in literature available from Baughman Manufacturing Co.,



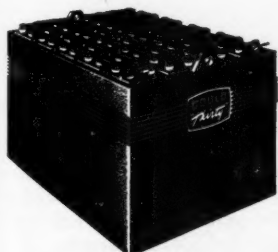
... SHOWS YOU WAYS TO **HANDLE** **BATTERIES IN YOUR PLANT**

Proper planning of the battery charging room is vital to greatest battery efficiency and the maintenance of high volume production at lowest cost. That's why the GOULD PLUS-PERFORMANCE PLAN contains extensive information on the charging and handling of batteries. This material, together with manuals, articles, specifications, bulletins, record cards, charts and graphs covering every phase of battery care, is yours for the asking.

With the GOULD PLUS-PERFORMANCE PLAN, you have at your fingertips a complete file of technical information on how to select, charge and handle, maintain and determine the condition of your batteries. Use it and battery service can be increased as much as 50%. Send today for the booklet shown at the right.



Low-headroom, trolley-mounted electric hoist quickly changes industrial truck batteries in charging room.



Gould "Thirty" with "Z" Plates—
America's Finest
Industrial Truck Battery

TRAVELLING HOISTS SPEED BATTERY CHANGES, INCREASE EFFICIENCY, CUT ACCIDENTS

A well planned centralized or decentralized battery charging system with cranes, hoists, battery racks, rollers, etc., located to expedite handling operations is essential to maximum battery service and plant operating efficiency. The illustration above shows such an installation in a Connecticut steel plant. It is unique in that it was fitted into a small, low alcove 15 feet wide, 25 feet long and only 8 feet high. In this space are seven charging units, two transformers, two spare bat-

teries, a rack for simultaneously charging seven 15-cell batteries, space for charging four 6-cell batteries and equipment for lifting, watering and testing. To save headroom, a special pickup attachment is secured directly to the hoist pulley housing. This layout eliminates manual handling operations, simplifies battery maintenance and results in greatly added battery life. Details and other handling suggestions are contained in GOULD PLUS-PERFORMANCE PLAN material.

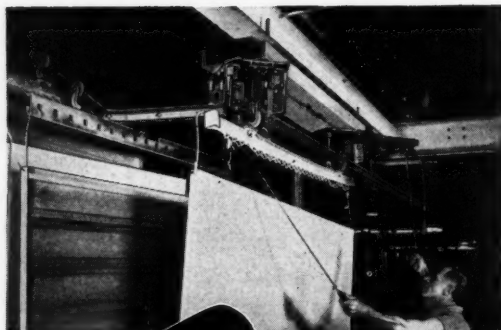
GOULD

STORAGE BATTERIES

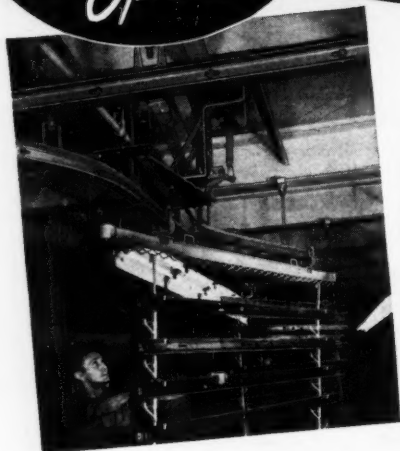
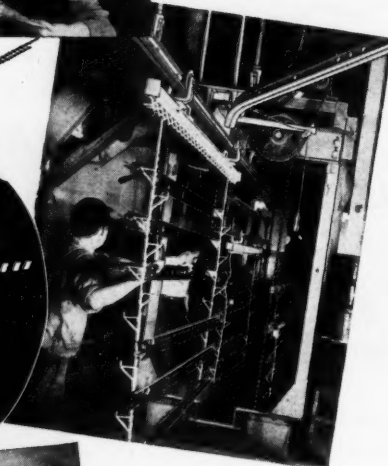
GOULD-NATIONAL BATTERIES, INC., TRENTON 7, NEW JERSEY

Always Use Gould-National Automobile and Truck Batteries

Circle No. 33 on Reader Service Card for more information



Carriers roll off power conveyor in finishing oven to crosstrack switches for 90° transfer to shipping area.



Carriers descend through degreasing tank on power-operated chain conveyor

Solenoid operated switch automatically brings trolleys on parallel tracks into single track alignment.

A well-known metal partition manufacturer faced the problem of increasing production without enlarging building. New and better handling methods were obviously needed. They chose an American MonoRail overhead handling system as the best answer to increase capacity without increasing space and with less handling labor. Now, this American MonoRail system handles the steel components from receipt of raw materials, through finishing to shipping. The system boosted production, cut handling labor, improved space utilization, reduced material damage, bettered working conditions, and improved production control.

Let an American MonoRail engineer show you how it can be done in your plant.

THE AMERICAN MONORAIL COMPANY

13129 ATHENS AVENUE

CLEVELAND 7, OHIO

Circle No. 34 on Reader Service Card for more information

Inc. You can learn about the many exclusive features and the speedy service offered by the manufacturer.

Circle No. 118 on Reader Service Card

Tags and labels are attached in a jiffy with the Arrow Gun Tacker. You can get literature on this easy to use, self feeding tacker from the Arrow Fastener Co., Inc. Just use the number below.

Circle No. 81 on Reader Service Card

You can print anywhere you want with the Multistamp Stencil Duplicator. There is a size for every duplicating need. Want complete information?

Circle No. 71 on Reader Service Card

Just think of the savings which you can get with a three dimensional dock board. Beacon Machinery will send you literature on a dock board which provides adjustment in three dimensions, vertical, horizontal and lateral.

Circle No. 24 on Reader Service Card

Waste storage space is greatly reduced by the Lull Traveloader. Its side loading feature permits high stacking and narrow aisles. Complete data is available.

Circle No. 53 on Reader Service Card

A rack-shelf which is adjustable without bolting . . . it's the Ratchet Rack made by the Borroughs Mfg. Div. of American Metal Products Co. You can get information which will show you how this rack can save time and storage space.

Circle No. 85 on Reader Service Card

A hoist which is designed to lift your production and to lower your costs is offered to you by the Read-

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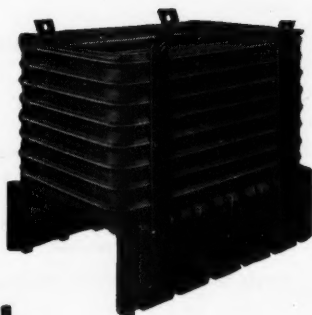
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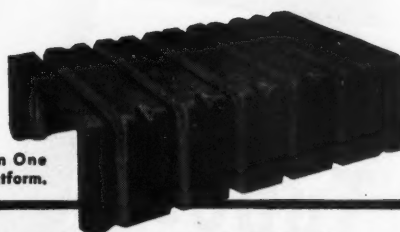
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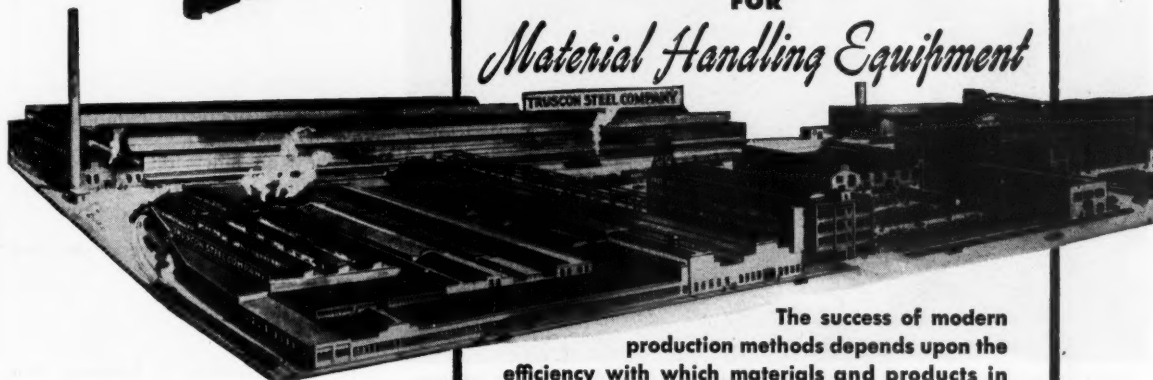
FLOW



Type PB-120L Truscon Box and Platform with full length lifting lugs.



Type P-1. Truscon One Piece Steel Skid Platform.



HEADQUARTERS

FOR

Material Handling Equipment

The success of modern production methods depends upon the efficiency with which materials and products in various stages of fabrication can be handled.

Truscon's Pressed Steel Division—nationally known for the quality of its products and the dependability of its service—is fully equipped and prepared to handle your material handling equipment requirements. The Pressed Steel Division's central location, moreover, assures efficient service for all your needs.

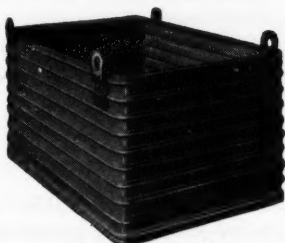
Write for illustrated catalog showing complete line of Truscon Steel Boxes and Skids.



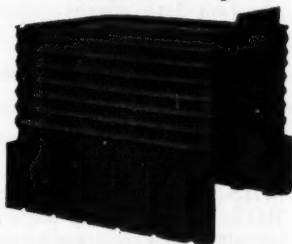
Reduce Your Costs

TRUSCON STEEL COMPANY

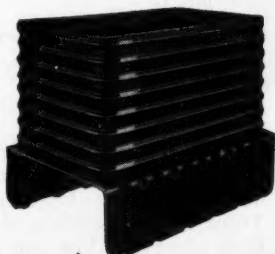
PRESSED STEEL DIVISION
6202 Truscon Ave. • Cleveland 4, O.
Subsidiary of Republic Steel Corp.



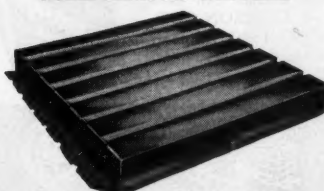
Type B-80C Truscon Box Equipped for Crane Handling.



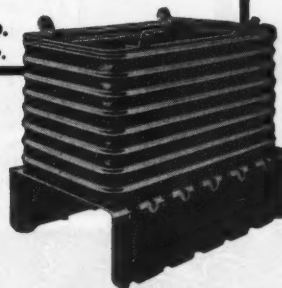
Type PB-650 Truscon Box and Platform with sliding End Door.



Type PB-120 Truscon Steel Box and Platform.

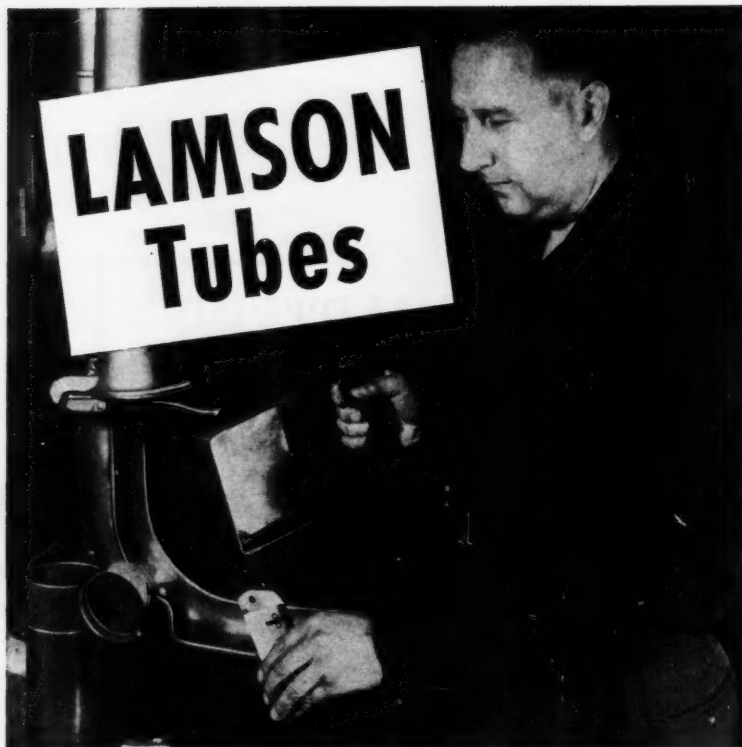


Truscon Double Face Steel Pallet.



Type PB-120T. Truscon Steel Box and Platform with Tying Lugs.

Circle No. 35 on Reader Service Card for more information



Samples from continuous casting furnaces are placed in envelopes and sped by carrier to Metals Research Department.

Speed

Metal Analysis...

A few other nationally-famous companies using Lamson Tubes to speed flow of paperwork, small parts and tools...

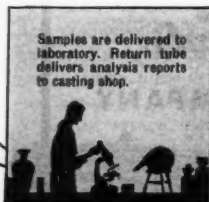
Bethlehem Steel

Alcoa

General Electric

Douglas Aircraft

General Aniline and Film Corp. (Anso)



From the casting shop of the Scovill Manufacturing Company, Waterbury, Conn., samples of each heat are whisked at 25 feet per second by Lamson Tubes to the laboratory. Samples and reports are conveyed between the laboratory and casting shop at a rate of 100 to 200 tube trips daily. Only when the analysis report is received—and meets specifications—is the billet or bar released to the mill.

Save Time and Manpower

Formerly a messenger on each shift carried samples and reports back and forth every hour. Now, the messengers are employed in more productive work—long delays are eliminated—analysis of each heat is speeded.

FREE BOOKLET

Send for "Wasted Steps"—shows how Tubes can save you money. LAMSON CORPORATION, 1300 Lamson St., Syracuse 1, N. Y.



Circle No. 36 on Reader Service Card for more information

ing Crane & Hoist Corp. Read about it in the free booklet, "144 Answers to Your Hoisting Problems."

Circle No. 66 on Reader Service Card

You can get prompt deliveries on large or small orders when you order Razorback Pallets. Let Arkansas Pallet Co. tell you about these money and time savers.

Circle No. 129 on Reader Service Card

Wherever operating conditions are tough the Ross Fork Truck can be a key member of the material handling team. The Ross Carrier Co. will send you the details.

Circle No. 47 on Reader Service Card

Over 50 models of Lansing two-wheel hand trucks are available for every need. A complete catalog is available from The Lansing Co.

Circle No. 57 on Reader Service Card

If you handle flowable bulk material you will be interested in seeing the Hapman-Dutton Tubular Conveyors Catalog. It contains application data, weight-volume-time charts and case histories.

Circle No. 102 on Reader Service Card

MHS Collapsible Pallet Storage Racks can be set up anywhere in the plant or warehouse by only two men. Prices and specifications are offered by Mechanical Handling Systems, Inc.

Circle No. 13 on Reader Service Card

West Bend Equipment Corp. offers you an extra profit when you buy its Weld-Built Hydraulic Lift Truck... the services of a Weld-Built engineer. You can get more information on this service.

Circle No. 128 on Reader Service Card

Stop wrestling with steel
strapping and wire binding . . .

HANDKLIP

6T Shear Cutters

for every

Shipping and Receiving ROOM

**FASTEST, EASIEST-CUTTING CUTTERS
you can buy . . . and no damage
to container or contents!**

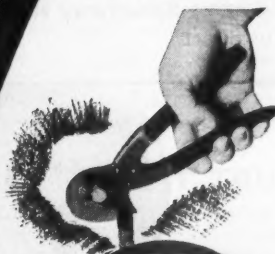
Quick as you can say the "Jack" in Jack Robinson, you can cut steel strapping and wire binding on any bale or container without harm to contents. HANDKLIP's sleek nose slips under the tight binder — clip! — that's all there is to it, even when releasing load holding wires and straps on trucks and freight cars. To move goods faster, equip your receiving and shipping rooms and platforms with HANDKLIP 6T Shear Cutters. Save minutes per package and you'll save hours per day.

See your supplier NOW!

H. K. PORTER, INC.
Somerville 43, Massachusetts

A "must" tool for every receiving and shipping department in plant, mill, railroad, utility, mine, warehouse, store, shop, garage and restaurant.

**HOOKS EASILY
UNDER THE
TIGHTEST STRAPPING**



HKP

PORTER CUTTERS

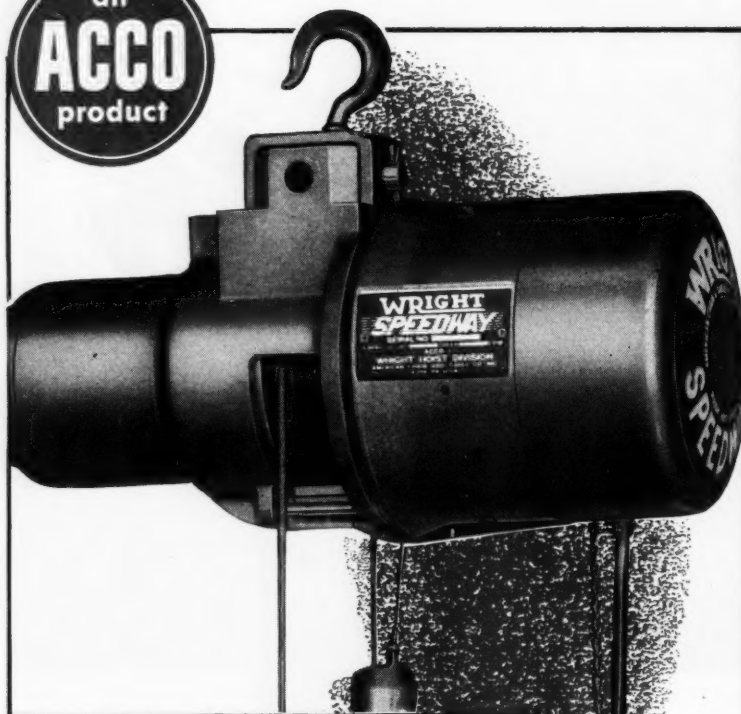
THERE ARE PORTER METAL CUTTERS FOR ALL THESE MATERIALS



Also manufacturers of

PORTER-FERGUSON Auto Body and Fender Tools and Equipment • PORTER PRUNERS

Circle No. 37 on Reader Service Card for more information



Set Endurance Records

• Alloy steel gears, self-lubricating ball and roller bearings, preformed improved plow steel cable, grooved drum, rigid metal weatherproof wire conduits, silver contact controls . . . these are but a few of the features that mean long life and low maintenance of the finely balanced **WRIGHT Speedway Frame "B"** Hoists.

Call your distributor today for full information on the **WRIGHT Speedway FRAME "B"** . . . or write to us direct.



ACCO

**WRIGHT HOIST DIVISION
AMERICAN CHAIN & CABLE**

York, Pa., Chicago, Denver, Detroit, New York,
Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

WRIGHT
Hoists
Trolleys
Cranes

Circle No. 38 on Reader Service Card for more information

Association and Society News

At the November meeting of the Philadelphia Regional Division of the Society of Industrial Packaging and Material Handling Engineers, R. F. Webber, General Supervisor, material handling research department, International Harvester Co. was the main speaker. His subject was, "Problems in Material Handling Experienced by International Harvester Co."

Members of the Northeastern Ohio Division of the Society of Industrial Packaging and Material Handling Engineers toured the plant of Ohio Corrugating Co. as part of their November meeting. They inspected the company's facilities for the manufacture of metal drums and pails.

As one of the features of the annual convention program of the Southwest Warehouse & Transfermen's Association in Houston was an industry panel on material handling. Explaining the advantages of certain types of equipment for particular warehouse facilities, the panel members gave advice on use and selection of mechanical devices. Panel members included some of the most noted material handling men in the Southwest.

The American Material Handling Society, New York Chapter will hold its January meeting on Monday the 14th. The meeting will be devoted to talks on the relationships of material handling men to management, other departments, and labor.

if it's a
handling
problem..

..consult

MERCURY

With over 41 years experience in the designing, manufacturing and installation of material handling equipment, MERCURY is well qualified to advise you on your individual handling problems. As the *only* manufacturer of all four types of equipment i.e. fork trucks.... platform lift trucks.... tractors, both gas and electric.... and industrial trailers, you are assured of sound as well as *unbiased* counsel.

FORK TRUCKS

"Jeep" Model-230 (illustrated) fork truck of 2000 lbs. capacity at 24" load center. Right angle stacks in 8-foot aisle with 32" pallet. Automotive steering, foot pedal acceleration, 130" fork elevation, full "free" lift.

"Yak" fork truck, capacity 4000 lbs. at 24" load center, is available in stand-up, center or rear control or sit-down designs. "Yank" stand-up center control fork truck is rated at 6000 lbs. capacity up to 30" load center.

ALL MERCURY fork trucks feature *simple, single cylinder, low pressure* hydraulic lift with patented cross suspension.



TRACTORS AND TRAILERS

"Tug" Electric Tractor (Illustrated): 3 models available - a 3 wheel light duty chassis and twin - 3 or 4 wheel medium or heavy duty chassis.

"Banty" Gas Tractor: A 3 wheel compact, short turning tractor which develops 2300 lbs. D.B.P.

Other MERCURY gas trac-

tors are "Huskie," a heavy duty 4 wheel machine available with pneumatic or solid tires; and "Super-Huskie," a 6 wheel extra heavy duty pneumatic tired vehicle.

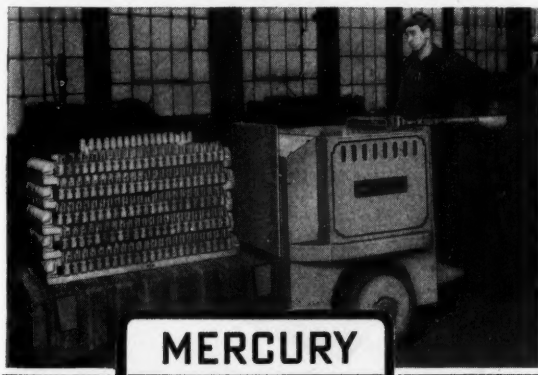
Trailers: Available in castor, 5th wheel steer or 4 wheel steer types. Capacities 2500 to 60,000 lbs.



PLATFORM LIFT TRUCKS

Illustrated is Model A-1020, wide design, 3 ton, low lift truck. Complete line includes narrow or wide models rated at 3000, 4000 or 6000

lbs. capacity with low, high or telescopic lift. Also, heavy duty, wide models rated at 10,000 lbs. with low or high lift.



MERCURY

FORK TRUCKS - TRACTORS - TRAILERS



MERCURY MANUFACTURING COMPANY
4154 So. Halsted St., Chicago 9, Illinois

- ☐ Have a representative call.
- ☐ Send copy of new 44 page catalog illustrating and describing complete MERCURY line.

Name

Company

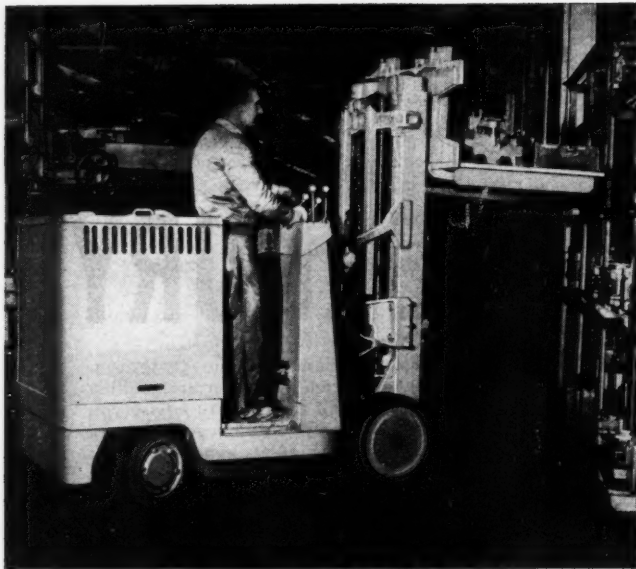
Address

City Zone State

MERCURY MANUFACTURING CO. 4154 S. Halsted St., Chicago 9, Ill.

Circle No. 39 on Reader Service Card for more information

FLOW • JANUARY, 1952



C&D Slyver-Clad
... the **best** battery for your lift trucks



C&D

BATTERIES, INC.

OF CONSHOHOCKEN, PA.
(In the Philadelphia Area)

SALES AND SERVICE

Boston, New York, Philadelphia, Syracuse, Buffalo, Pittsburgh, Washington, Atlanta, Jacksonville, New Orleans, Cleveland, Detroit, Chicago, St. Louis, Minneapolis, Dallas, Denver, San Francisco, Los Angeles, Portland, Seattle

STARTS STRONG !

Right from the very first minute of the shift, a C&D Slyver-Clad battery delivers extra power. That's because *this* is the battery with 20% greater capacity than ordinary batteries. Plates are heavier, thicker, and 14% longer! Result: more power-producing material to help your trucks get *more work done each day!*

WORKS STRONGER !

The extra-long plates in a C&D Slyver-Clad battery enable operators to get *maximum* performance from their trucks—to lift heavy loads time and again, to take ramps and inclines easily, to travel swiftly whenever necessary. Yet this super battery is contained in a steel-tray the same size as that of ordinary batteries!

ENDS STRONGEST !

With Slyver-Clad power there's no let-down before the end of the shift. Longer plates deliver maximum power for a *full*, hard working day. Secret of getting more battery into a given space lies in C&D's exclusive Five-Fold Slyver-Clad method of plate insulation and retention. Efficient retention holds active material in place so its full power-potential can be utilized. During its entire life this same principle accounts for Slyver-Clad's 35% longer work-life!

FREE—Send for C&D's catalog on Slyver-Clad Batteries which explains in detail the construction and performance features of these hard-working batteries. Write for your copy today!



Circle No. 40 on Reader Service Card for more information

JANUARY, 1952 • FLOW

Follow These Eight Rules To Get The Most From Your Mobile Cranes . . .

1 Follow manufacturer's operating and instruction manuals. There is no one who knows more about your equipment.

2 See that lubrication instructions are known by more than one man. In case of illness or change of jobs, these important functions won't be delayed.

3 Use manufacturers' recommendations for lubricants, motor oils and grease. Use only products made by reputable firms.

4 Be sure lubrication tubes get periodic examination. If tubes are clogged, lubricants cannot reach the points where they are needed.

5 Inspect clutches, linings, center pins, drive chains bushings and engine filters closely and regularly. They are the lifelines to successful operation.

6 Order needed parts in advance—these include linings, cables, dipper and bucket teeth. Let experience anticipate required replacements.

7 Be sure equipment is clean. Good housekeeping is conducive to good maintenance, effective operation.

8 Periodic cable inspection is vital. It will improve the equipment's ability, protect operators from dangerous accidents.

Heres How Your Mobile Cranes Can Give You Longer Service



By A. E. York, Service Manager
Link Belt Speeder Corp.
Cedar Rapids, Iowa

The most important periods in the lifetime of a crane or shovel come when they are first placed in service, and the period immediately following when the customer is becoming accustomed to the machines. That's why it is essential that this piece of expensive equipment be started off properly by qualified servicemen. And the qualification of the servicemen is

the responsibility of the dealer selling the equipment.

Proper instruction covering all adjustments, care and points of lubrication is important at the time of delivery. Since there will always be a labor turnover, it is essential that operating instructions be handed down from one operator to another in the event that the employee originally familiar with operating instructions leaves for another job.

Too often, a new shovel or crane is deadlined because of improper care and lubrication after the machine has left the factory. In many cases the problem of too much grease is almost as serious as too little lubrication. Since the danger connected with lubricating certain points is covered at the time of delivery, the customer should see that the information reaches the proper personnel.

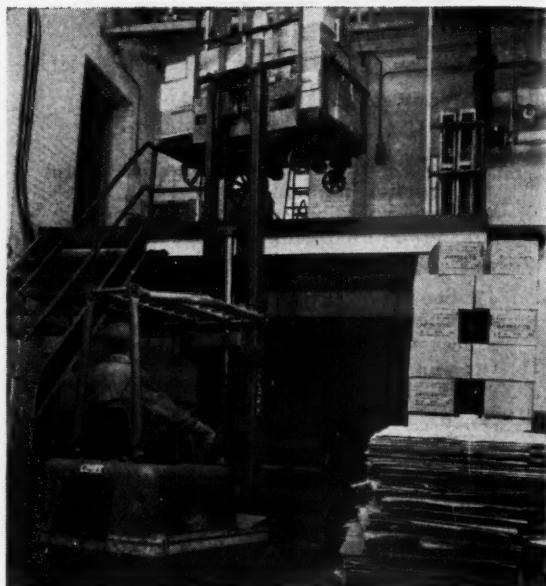
Follow Manufacturer's Manual

Systematic care and maintenance can usually be developed by following carefully the manufacturer's operating and instruction manuals. This includes not only proper care and lubrication, but also keeping the machine clean, and making regular periodic inspections of the equipment—inspections which will reveal

Turn to page 81

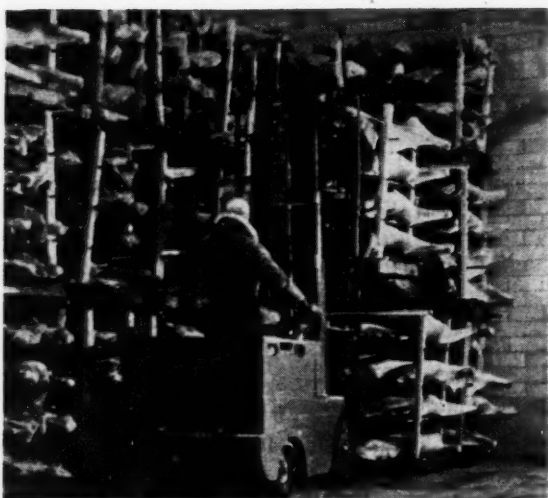


1. **PALLETIZED BAGS** are stacked four high at General Mills, Farm Service Div., Miami, Fla. 20 bags are placed on each pallet in criss-cross pattern; each load weighs 2000 lb.



2. **FOUR-WHEEL PLATFORM TRUCK** is spotted on balcony by fork truck; sleeves on underside of the platform accommodate the forks. User: E. R. Godfrey & Sons, Co., Milwaukee.

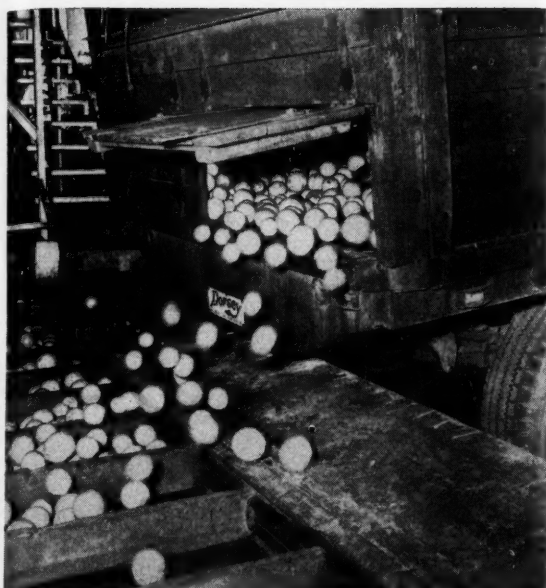
16 Ways to Handle Food Products:



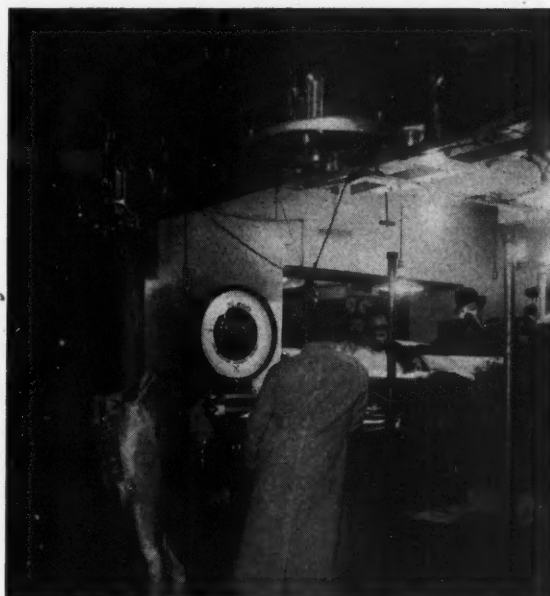
5. **SPECIAL PALLET RACKS** are designed for storage of meat. Uprights attached to pallets have crossbars of pipe, are detachable for storage purposes.



6. **TRACTOR-TRAILER TRAINS** can be used both for stocking items or, as shown here, for order picking. When picking is finished, train is hauled to checking, shipping.



- 3. FLIGHT CONVEYOR** moves fruit from incoming trucks to the plant. Fruit flows by gravity from carrier between flights which are moved by chain. Product damage is avoided.



- 4. MONORAIL SYSTEM** carries heavy sides of beef from coolers to other stations. Hook, suspended from carrier, is inserted through load and easily pushed to desired point.

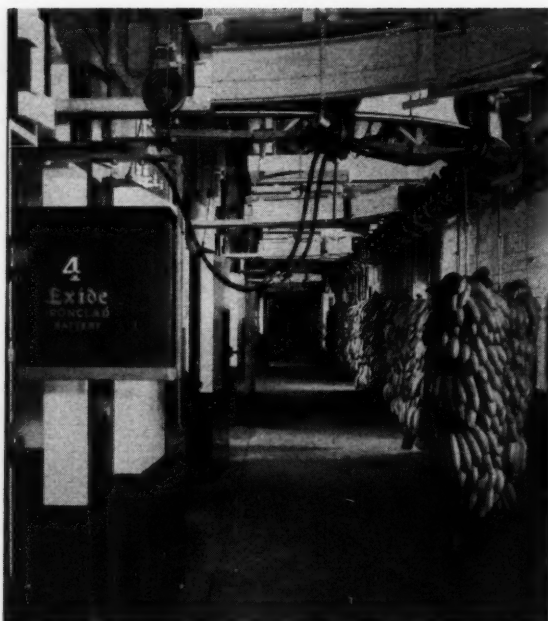
Is your problem to reduce spoilage, speed or lower handling costs?
These methods can help you in your operations.



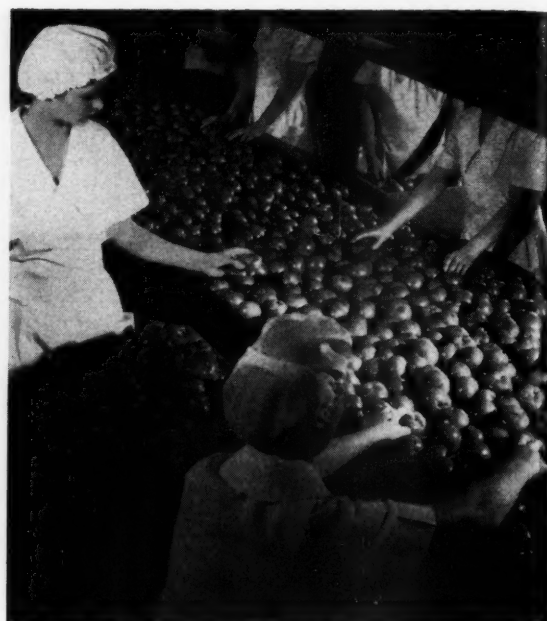
- 7. FORK TRUCK, WITH GRIPPING ARMS,** handles 48 cartons at one time. This attachment enables fork truck to move load units when pallets can not be used.



- 8. GET THE MOST FROM** your storage areas by stacking loads to maximum ceiling heights. For order picking in large volume, pallet loads can be moved quickly and easily.

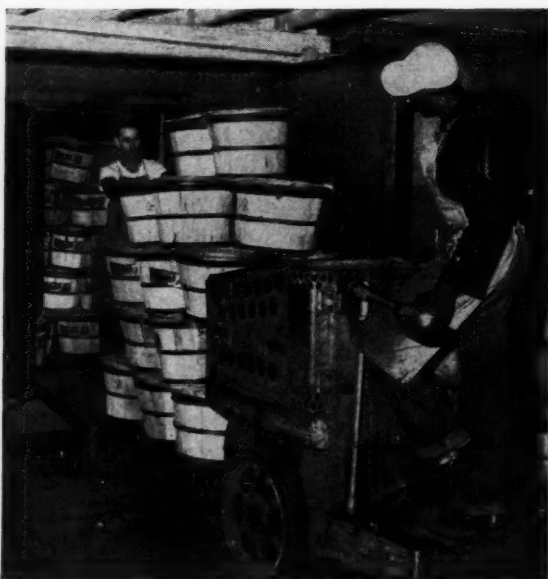


- 9. BATTERY-POWERED MONORAIL SYSTEM** is used to move bananas from cars to ripening rooms. Each train is controlled independently by buttons at front and rear of train.

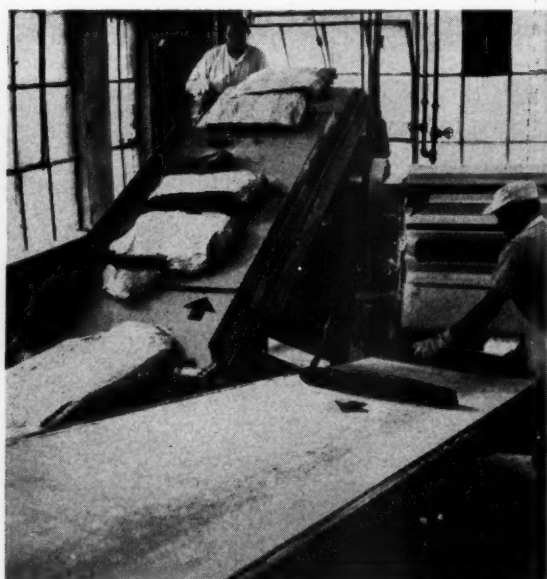


- 10. APRON CONVEYOR** moves tomatoes slowly past inspectors who remove rejects. Conveyors insure continuous supply to all operators, produce remains within easy reach.

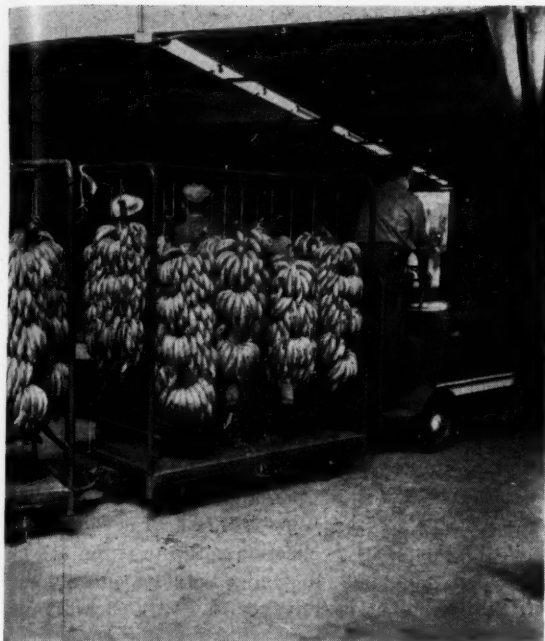
16 Ways To Handle Foodstuffs — safely,



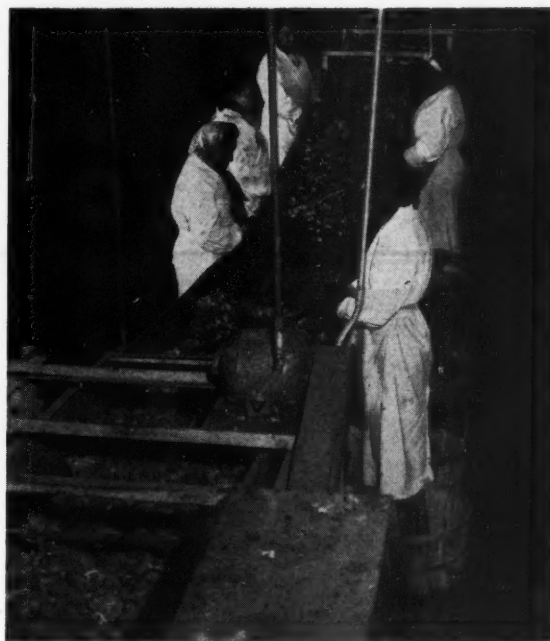
- 13. POWERED PLATFORM TRUCK** picks up skidded load of produce in baskets; more than 20 are on this skid. Even irregularly-shaped loads can be successfully unitized.



- 14. RUBBER OR CANVAS BELTING** is widely used to move such loads as dough where sanitary conditions are vital. Belting can be easily cleaned, can be non-toxic.

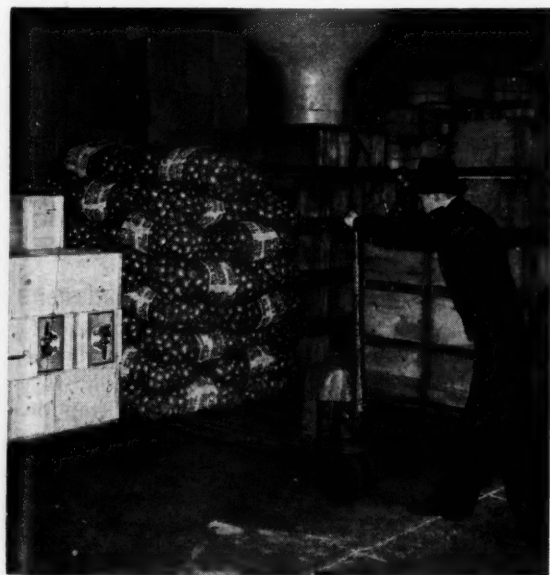


- 11. TRACTOR-TRAILER TRAIN** is also used for moving stalks of bananas. Superstructure on trailers has hooks which accommodate at least 13 stalks.



- 12. WIRE MESH BELT CONVEYOR** is designed for carrying loads when draining is necessary at the same time. Dirt and water fall through the mesh.

economically, efficiently . . . continued



- 15. HYDRAULIC OR MECHANICAL HAND-LIFT TRUCKS** are mighty valuable for moving loads for short distances or on weak floors.



- 16. OVERHEAD CHAIN CONVEYOR** transports chickens past cleaning, firing, and inspection in a continuous flow. Conveyor can be used to pace operators.

COST CUTTING BRIEFS . . .



CONVERGING CHUTES can be laid out so the opening in the floor is as small as possible. At the Chevrolet-Indianapolis Division, company engineers rigged up chutes leading from punch presses so that several converge on one which in turn feeds through the floor onto an underground conveyor. Valuable floor space is saved and the hole leading to the conveyor can be decreased in size. Chevrolet has an unusually good scrap collection setup: chutes move scrap from machines to under-the-floor conveyors which all feed on main conveyor which transfers scrap to one central bailing room.



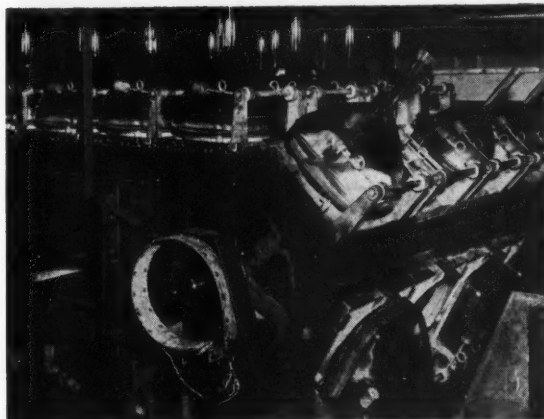
OLD AND NEW BATTERIES on fork lift trucks at Cutter Laboratories, Berkeley, California are treated with a compound which extends the life of new ones and puts new life into the old. When the compound is added to the electrolyte, the charging current is able to gradually transform the hard "insoluble sulfation" back to active material.



MULTI-WALL BAGS are filled quickly and effortlessly by one man (at each station). At the National Lime & Stone Co., Carey, Ohio, hydrated lime is fed from hoppers into the bags. Hoppers like this, often have set limits which automatically stop the flow of material at pre-determined settings. Bags usually have special valves in their corners which pull shut when the bag is removed from the feeding spout. Approximately 200 tons of this product is shipped by rail each day at this plant. Slaked bulk lime, held in storage in another part of the plant, is shipped in hopper cars which are loaded by a screw conveyor.

COST CUTTING BRIEFS...

MOVING FRAGILE ITEMS AROUND BENDS and corners can be a tricky job that can end up in damage or loss of a product. This problem has been solved in the handling of critical television tubes around the end of the conveyor, as shown here. The front of the tube rest against special cushioned carrying members of the conveyor. To hold the tubes rigid, spring tensioned guides grip both sides of the tube anchoring it during its vertical travel and preventing any vibration during its horizontal travel. Various other guides and fingers can be installed on other conveyors to secure loads.



BIG SAVINGS IN MATERIAL HANDLING TIME have been made possible at Link Belt Co. by these ingenious skid pallets. The reinforcement material is 1-in. IPS black pipe. In addition to the time savings, these skid pallets have also saved considerable amount of space through their stacking feature.



CASTERED DOLLEYS support automobile bodies arriving at the Cadillac Motor Car Co. from its supplier, Fleetwood Plant of Fisher Body. Bodies are loaded on these dollies at the fabricator's plant, moved onto highway trucks, and transported to Cadillac. Here, the bodies are lined together and a cable with hooks on each end is attached to the end body and the drag chain conveyor which will move the bodies to upper floor storage. The conveyor acts to pull the bodies from the truck without manual effort, and automatically transfers them to the conveyor line. Angle irons on the sides of the chain guide the castered carriers.





PHOTO NO. 1: 2000-lb. skidded load of nickel silver wire is unloaded from incoming carrier, fork trucked to storage. Skids are furnished by vendor; load is removed at machines by hairpin hook.



PHOTO NO. 2: Skid with box superstructure contains approximately 1000 lb. of narrow non-ferrous strip, is received this way from the vendor. Box is removed before transfer to production.

How To Build A Handling



PHOTO NO. 3: There are only 10 spools of wire in container, left (the old way of receiving), 60 spools in the load unit, right. The new method reduced tare 40%, saved large amount of lumber.

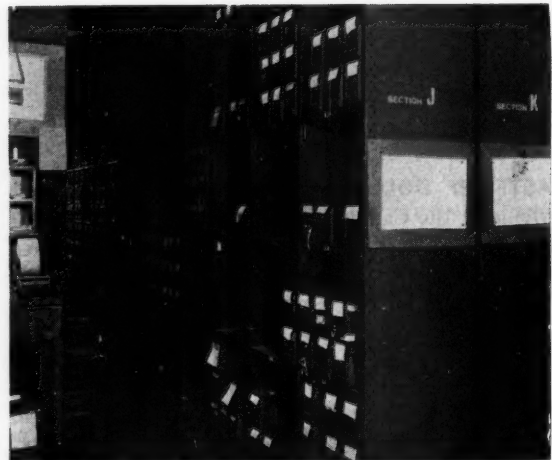


PHOTO NO. 6: Small parts are stored in surplus ammo. boxes in shelf sections. Each box holds 35 lb., offers additional advantages for inventory control, protection of parts, ease of handling.

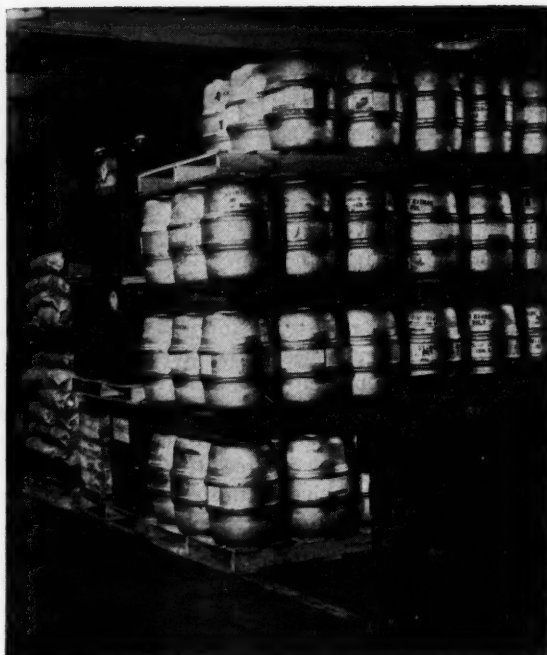


PHOTO NO. 5: Nitric acid is now received in stainless steel drums (instead of carboys) and palletized and stacked to ceiling. Storage space has been reduced 40%, there is no danger of breakage.

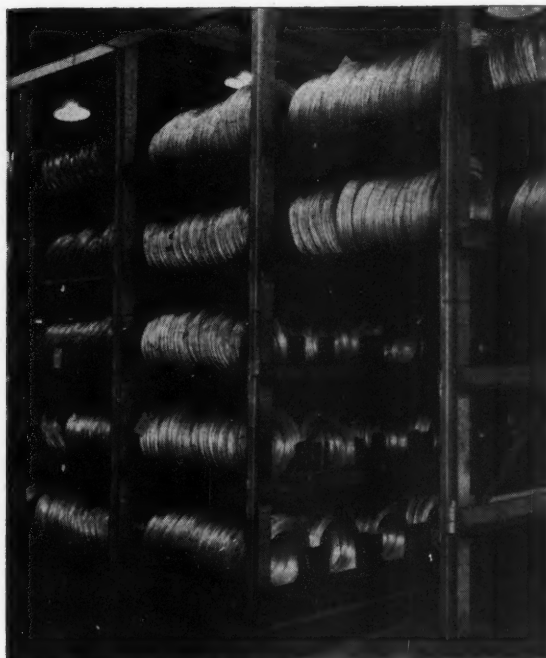


PHOTO NO. 4: Racks, which may be loaded or unloaded from either end, hold skid loads of contour rolled wire. Storage area has been increased, vulnerable wire is protected at all times.

System Around Load Units

Mr. Blass has been with Talon, Inc., since 1930, and has been active in the development of the company's Planning Division. He has been in complete charge of the planning activities since 1943. He is a Professional Industrial Engineer, past chairman of the Northwestern Pennsylvania Chapter, American Society for Metals, and active in other technical groups.



**By Carl Blass, Manager of Planning
Talon, Inc., Meadville Pa.**

Load units have been the key factor in our recent material handling modernization program. Since we have introduced load units into our receiving, in-process, and shipping operations, we have speeded handling, decreased total storage area, minimized physical effort, improved inventory control and

streamlined handling systems over all.

We handle everything from bobbins of thread in one-gross cartons to non-ferrous wire on 2000-lb. pallets and skids, and from bulk lime to equipment weighing 7500 lb. In carrying out our program, we spent approximately \$40,000 over an 18-month period. *This was amortized in the first six months of full operation.*

In this article, I want to call your attention to but nine of the many improvements that were made.

1. Load Units of Wire (Receiving): the major item from a point of view of tonnage is non-ferrous wire, including round wire, flat wire and slit stock. The round wire is handled in coils of approximately 200 lb. each, giving us a total of 10 coils or 2000 lb. on a specially designed skid. The load units are secured by steel strapping which is inserted twice through the coils, one around the top and one around the bottom of the load and through the base of the skid. Skids have 4-in. legs and 26-in. end sections formed in an M-shape which permit the insertion of a

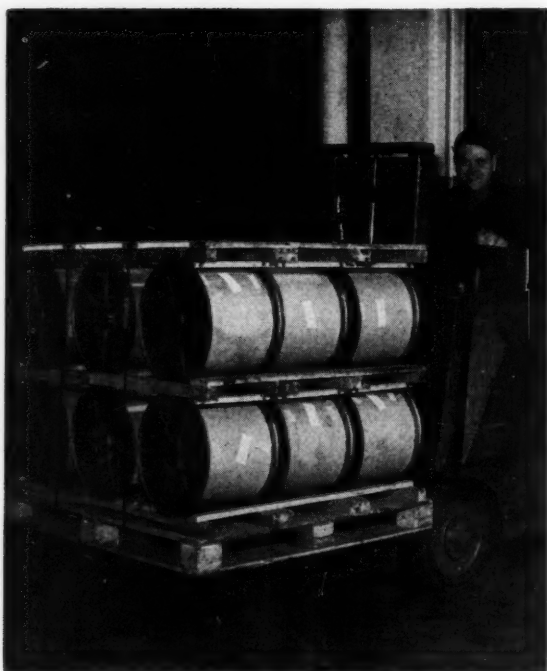


PHOTO NO. 7: This nest of pallets carries 18 beams weighing 990 lb., with a tare of less than 100 lb. Steel strapping is again used to combine this load into an easy-to-handle shipping unit.

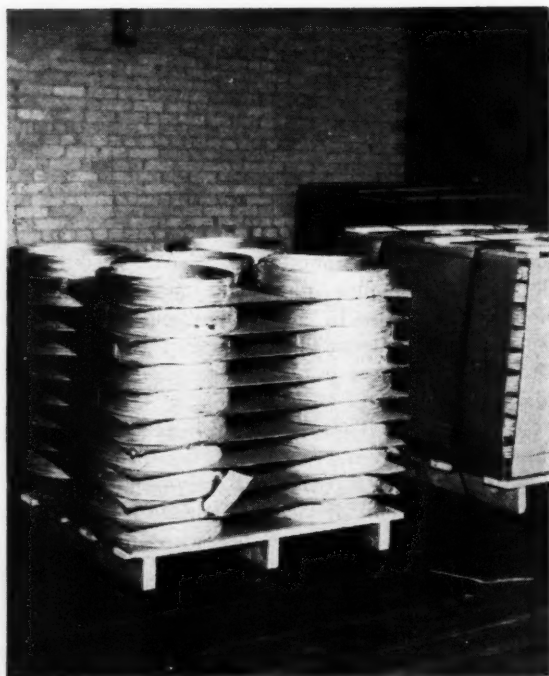


PHOTO NO. 8: Load unit of contour rolled wire weighing approximately 2000 lb. is prepared for shipment to Talon assembly plant. Fibreboard sheets separate, protect different levels.

hairpin hook for removal of the wire.

All of our principal suppliers agreed to furnish these skids in sufficient quantity to cover the volume of material purchased by us. This permits the removal of the material from a box car in four manhours (a truck driver for two hours and a weigh-man for two hours). (See Photo 1.)

2. Load Units of Flat Wire and Slit Stock (Receiving): our flat wire and slit stock is handled on skids with a wood box for a superstructure. It is received this way from the vendor and is so stored. The superstructure is removed before being delivered to the production department. The skids are returned to the vendor and represent his property. (See Photo 2.)

3. Small Spools Receiving: we used to receive 10 spools in a wooden box; now we receive 60 spools on a skid. The spools are secured with side braces and the entire load is combined with steel strapping. There is less lumber in the skid per spool than in the boxes we used to use, giving us a reduction in tare of 40%. There is also a major additional saving in lumber as the nest of pallets is expected to give a minimum of six round trips. (See Photo 3.)

4. Load Units of Chipboard Box Blanks (Receiving): these are received in 2000-lb. loads on pallets and subsequently handled in this manner. Using this load unit, we can unload a trailer body in a matter of minutes. We retain the blanks on these pallets up to a point of use in box making machines. The pallets in this case are the property of the vendor and are returnable.

To move goods between departments, we try to stick to the load unit principle wherever possible. Likewise, we have found as so many other plants have, that storing in quantities saves both space and man-hours.

Here are some examples of our storage methods.

1. Storage of Wire: the same skids on which wire is received are used for storage in racks prior to processing. After processing, wire is placed on different skids, as shown, and stored in identical racks. The original skids are returned to the vendors. Racks are designed for loading or unloading from either end, save valuable floor space and at the same time protect the load. (See Photo 4.)

2. Storage of Acid: we now store our nitric acid in stainless steel drums instead of carboys. We are able to palletize these containers and stack them to ceiling limits. We are now using 40% less storage space, there is no danger of breakage and we have far more efficient handling. (See Photo 5.)

3. Storage of Small Parts: we have found that storing small parts in M-2 Ammo boxes in shelf sections has saved space, reduced inventory control headaches and combines these hard-to-manage items in easily handled units; additional protection is still another advantage. Each load unit weighs a comfortable 35 lb. (See Photo 6.)

Finally, we have extended our load unit principle to shipping. Here are details of some of these operations.

(Turn to page 78)



L. West Shea
Union Metal Mfg. Co.
President, M.H.I.



John C. Mevius
American Engineering Co.
1st Vice President, M.H.I.



Howard M. Palmer
Lewis-Shepard Products
2nd Vice President, M.H.I.

Material Handling Institute Elects Shea, Mevius and Palmer New Officers . . .

To lead the destinies of a segment of American manufacturing which has grown to an annual sales volume of more than \$1,250,000,000 in one decade, The Material Handling Institute, Inc., and its 78 member companies have elected L. West Shea of The Union Metal Mfg. Co., Canton, Ohio to the post of president.

"In 1952," said Shea, "our industry will tackle as its primary jobs: (1) co-ordinating services now performed by the eight specialist associations which are subdivisions of our industry, (2) eliminating duplicate effort between those associations, (3) continued service with and for the NPA, (4) the inauguration

of an Industry Service Plan aimed at helping American industrial management to save money, time and waste through better, 'in-plant logistics', and (5) buttressing the educational efforts of the nation's material handling engineers as organized in the American Material Handling Society."

Elected with Shea to the posts of first and second vice-president, respectively, were John C. Mevius of American Engineering Co., Philadelphia; and H. M. Palmer of Lewis-Shepard Products, Inc., Watertown, Mass. Mevius is currently spending much of his time on the Institute's sponsorship of the 5th National Material Handling Exposition now slated for 1953.



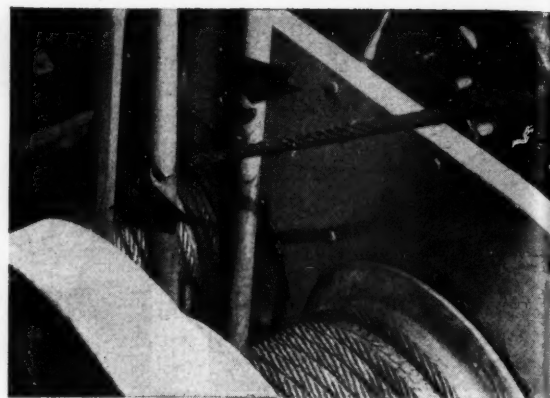
How To Ruin Your Wire Rope

You don't need any special tools—just a little well applied carelessness, plus a complete disregard for inspection routine—and you can prepare your wire rope for accidents in no time

Or-you can do this

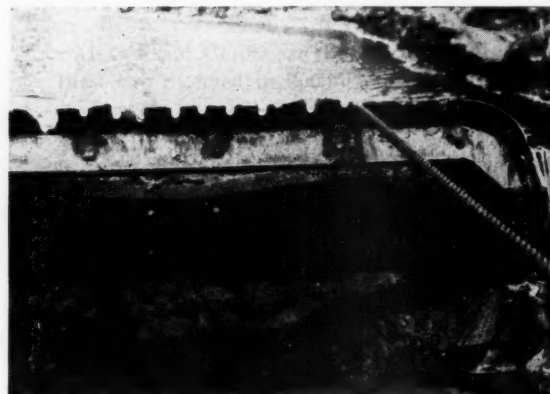
In case you want to extend the working life of your wire rope—and that of the men working with it —forget the pictorial instructions above. Instead, plan on taking a little time to care for it. Correctly handled, wire rope makes quick work of rough-and-tough jobs; ignored, it boosts accident rates and costs. Starting at the beginning, here are some of the main points to remember.

Selection: There is no such animal as an all-purpose wire rope. You can choose from hundreds of types and sizes, depending on the job you want it to do. The kind of steel used, number of strands, number of wires in each strand, arrangement of wires and strands, core material, method of manufacture (pre-formed or not):



**CHEW
IT**

GUARDS ARE A GOOD IDEA, except when they chew up rope. See how the pipes have been worn through (arrows): same thing happened to rope.



**DRAG
IT**

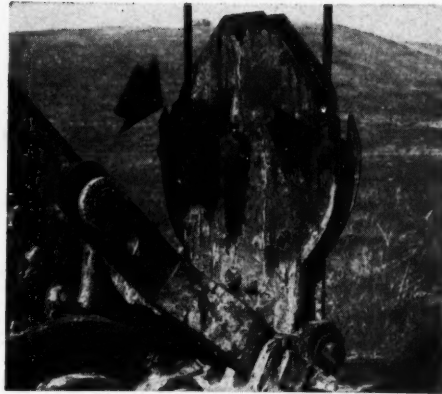
SCRAPER BUCKET DRAGLINE operation is hard on wire rope, but not nearly as damaging as dragging it over the bucket rim until it saws notches along it.

these are the variables which make one wire rope different from another. For ordinary work, 6 x 19—6 strands of 19 wires each—with a fiber core is the most popular type. For heavy duty chores, a wire rope core is preferred. Added flexibility is offered by ropes with more wires to the strand—6 x 37, 6 x 41 or 6 x 46. You'll save money in the long run by matching the wire rope to each job. Trying to standardize in this respect is foolish economy.

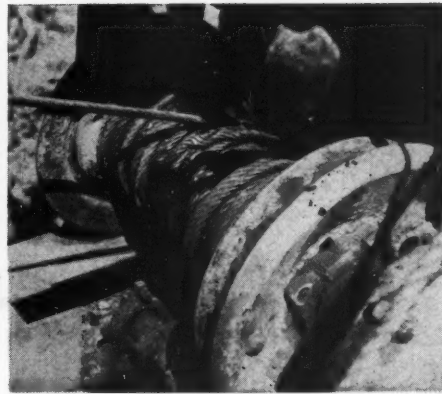
Storage and handling: Anything made of steel can rust and corrode if not properly protected. Get your wire rope inside, keep rain and moisture away from it. Don't throw it on the floor and let heavy junk pile up on top of it. Wire rope isn't delicate, but its strands can be smashed or scuffed by improper storage. It should be coiled neatly without kinking. In use,



CUT IT **WORN** sheave has teeth to cut as rope runs through.



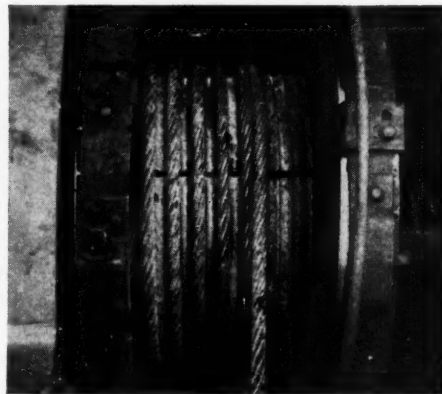
SCRAPE IT **OVERHANGING CHEEK PLATES** on this bucket bail have ragged edges, should be replaced to save rope.



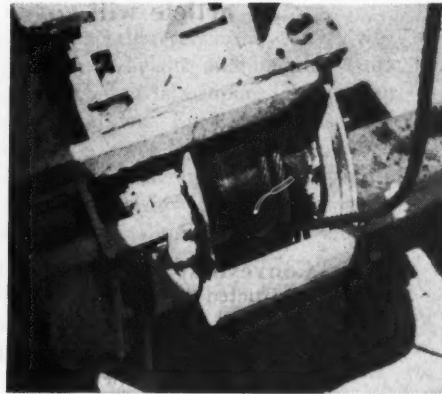
CROSS IT **SLOPPY DRUM WINDING**, criss-crossed rope is sure to shorten rope life. Crossing smashes strands.



SAW IT **NOTCH** in boom plate resulted from rope saw.



WIND IT **WINDING ROPE ON A DRUM** so that grooves are skipped is bad for all wire rope: an invitation to trouble.



JERK IT **A PUNISHING JERK** is sure to result when wire rope is wound on drum as slack as this is.

avoid running the rope through sand and dirt.

Taking wire rope off the reel or coil is a good place to avoid trouble. Throwing it off in loops twists and kinks the strands. Best way is to get the reel up on an axle of some kind and unwind the rope as the reel turns. To reeve up a drum from the top, pull the rope from the top of the reel: to wind the drum from the bottom, pay the rope off the bottom of the reel. To uncoil rope, just roll the coil along the ground.

Always keep the wire rope straight. Once a kink or loop is pulled tight, the rope is damaged for good at that point. When you rig a new wire rope, pay attention to the length of rope you cut off the coil: if it's too long, you'll only pile up extra layers on the drum, cutting its life; if you cut it too short, you won't have anything left to cut as the ends get worn.

Reeving up: Keep an eye on the rope to avoid kinking, and make sure that it winds evenly on the drum, freely through all sheaves.

To get full strength and efficiency from your rope, make sure that it is properly attached. Zinc-filled sockets develop 100% of the ropes breaking strength: replacing the zinc with babbitt metal or lead drops the strength as low as 25%. Clips and wedge-type sockets develop about 80%, but, in case the rope breaks from fatigue near the end attachment, these types are preferable.

Place clips with the U-bolt over the dead end of the rope, the base against the live end. And don't stagger them. Tests have shown that this arrangement doesn't add any strength. Recommended number (Turn to page 77)

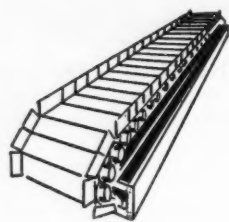
For those who want to

Conveyors:

This Flow report is designed as a details and applications. Also included present and future installations.

Part I. Package and unit handling conveyors. Next month's article will cover conveyors for bulk materials.

Apron Conveyors: These are power-operated conveyors constructed with metal aprons supported between two strands of endless chains. The chains slide or roll on continuous side rails and the aprons interlock end to end to avoid the dropping of loose material between them. Aprons may have overlapping side members, providing a continuous trough that may be nearly water-tight. These



conveyors are available in both permanent and portable models.

Uses: apron conveyors can be used for both bulk and packaged loads on level or inclined runs. They are especially suited for heavy or often hot and/or abrasive materials.

Push Bar Conveyors: These are power driven and consist of bars attached between parallel strands of endless chains. The bars are equally spaced at distances to suit the size of the packages being handled. Travel of the bars is in a plane a few inches above belts moving at the same speed or over smooth-bottomed chutes.

Uses: push bar conveyors are used chiefly for elevating loads, and as boosters in gravity systems.

Belt Conveyors: One of the most common types of conveyors which are available in permanent, portable and specialized models. They may be arranged as part of a table top to provide work area on either side, in a superstructure extending over the side of a ship for unloading (boom conveyor), on wheels or castors for easy movement in and out of carriers (other than the usual portable model), etc.

Basically, belt conveyors are power driven and equipped with endless belts operating in a straight line over end pulleys and on roller or flat beds. Loads are placed on either the top or bottom run or on both for maximum flexibility. Thus, loads traveling back and forth within the same area can be moved on a single conveyor. Side guard rails can be provided to keep the loads on the belt; cleats can be provided to maintain loads during steep inclined runs. Belts can also be troughed for carrying bulk material (see next month's article).

Uses: there is almost no limit to the applications of belt conveyors. Special belting both canvas and rubber can be provided for handling hot loads. All types of packages and other loads can be carried.

Note: See Tables I, II and III on the following two pages for engineering data on (1) Tight Side Tension of Belting, (2) H.P. To Convey Material Horizontally—Any Speed And Any Material, and (3) Additional Horsepower Required For Each Trip-per.

get the most out of their conveyors.

review of various major types of conveyors, their construction are tables which will give you information to get more out of your

Chain Conveyors: For transporting sub-assemblies and similar loads, a chain conveyor usually is equipped

with dollies, pallets and other carriers which actually support the load. For handling bags, logs, barrels, etc., the chain slides through the trough acting as the carrying member. Sometimes, lugs are fitted to the chain to aid in transportation.

Construction Details: these power driven conveyors consist of one or more strands of endless chains operating on sprockets. The chain is often supported on metal tracks.

Some chain conveyors are installed beneath the floor with an opening in the floor above the chain. Warehouse trucks equipped with pins at their front ends are thus towed along when the pin is inserted in chain links.

Gravity Wheel Conveyors: Unlike roller units, these conveyors are always of the gravity type, primarily designed for lighter loads than carried by rollers. These conveyors consist of two or more parallel rails, between which narrow wheels are mounted on axles, and are free to rotate in a vertical plane. The wheels are placed in two or more rows and are usually staggered

when in multiple rows. Suitable for packages with

hard surfaces, the system can include switches, curves, scales, boosters, etc.

Shown here is a retractable version of the gravity wheel type adjustable to height and length. They are portable units capable of telescoping into and up to the main conveyor section. Each flight or section of this telescopic unit is lower in relation to the section ahead of it, enabling the units to slide under each other and yet keep the downhill slope necessary for gravity loading or unloading. Expanded lengths might range to 40 or more feet, with telescopic unit, 10 feet. Because wheel conveyors are very light in weight, they are portable and often ride with delivery trucks, etc.

Conveyor Elevators: There are several different types of these units, the one shown being the arm

type where the loads ride on the arms and are discharged as the arms roll over the head pulley. This type of conveyor is extensively used in multi-story buildings for inter-floor travel. A similar type of conveyor has trays instead of arms as the carrying member. Several additional types are designed for bulk materials

and will be covered next month.

Roller Conveyors: Operating either by gravity or powered by belts operating on their underside, the rollers are mounted in side rails. Rollers can be either of steel, aluminum, cast metals, wood and various alloys, while the bearings can be of the ball, roller, tapered roller, hard woods and self-lubricating types

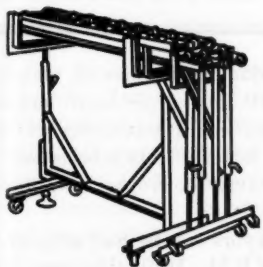
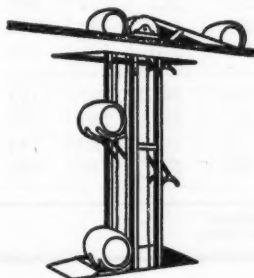


Table No. I

Tight Side Tension of Conveyor Belting

Angle of Wrap	TYPE OF TAKE-UP		TIGHT SIDE BELT TENSION T_1 IN LBS. PER HP BELT SPEED IN FEET PER MINUTE											
	Screw Take-up Pulley	Counter-weight Take-up Pulley	100	150	200	250	300	350	400	450	500	600	700	800
180°	Plain	Lagged	660	440	330	264	220	189	165	147	132	110	93.3	82.5
			610	406	305	244	203	174	153	135	122	101	87.1	76.3
	Plain	Lagged	537	358	269	215	179	153	134	119	107	89.6	76.7	67.2
			502	354	251	200	167	143	125	111	100	83.5	71.7	62.8
200°	Plain	Lagged	630	420	315	252	210	180	157	140	126	105	90.0	78.7
			575	384	288	230	192	164	144	128	115	95.9	82.1	71.8
	Plain	Lagged	510	340	255	204	170	146	127	113	102	85.0	72.8	63.7
			469	313	235	188	156	134	117	104	94.0	78.3	67.0	58.6
210°(a)	Plain	Lagged	617	411	308	247	206	176	154	137	123	103	88.0	77.1
			545	363	272	218	181	156	136	121	109	99.2	77.9	68.0
	Plain	Lagged	495	330	247	198	165	142	124	110	99.2	82.6	70.6	61.8
			455	304	228	182	152	130	114	101	91.2	76.0	65.0	56.9
220°	Plain	Lagged	565	376	282	226	188	161	141	125	113	94.2	80.6	70.6
			518	346	259	207	173	148	130	115	104	86.5	74.0	64.8
	Plain	Lagged	472	314	236	189	157	135	118	105	94.5	78.7	67.4	59.0
			440	294	220	176	147	126	110	98.0	88.0	73.4	62.8	55.0
240°	Plain	Lagged	538	359	269	215	179	154	135	120	107	89.8	77.0	67.3
			492	328	246	197	164	140	123	109	98.4	82.1	70.2	61.5
	Plain	Lagged	455	303	228	182	151	130	114	101	91.0	76.0	65.0	56.9
			425	283	212	170	141	121	106	94.5	85.0	70.9	60.6	53.1
300°	Plain	Lagged	482	321	241	193	161	138	120	107	96.3	80.3	68.8	60.2
			452	302	226	181	151	129	113	101	90.4	75.4	64.5	56.5
	Plain	Lagged	416	297	208	166	139	119	104	92.5	83.2	69.3	59.4	51.9
			396	264	198	158	132	113	99.0	88.1	79.2	66.0	56.6	49.5
360°	Plain	Lagged	442	295	221	177	147	126	111	97.4	88.4	73.6	69.1	35.2
			416	277	208	166	138	114	104	92.5	83.0	69.2	59.4	51.9
	Plain	Lagged	390	260	195	156	130	111	97.4	86.5	77.8	64.9	55.6	48.7
			373	248	186	149	124	107	93.3	83.0	74.6	62.6	53.3	46.5
420°(b)	Plain	Lagged	413	275	206	165	138	118	103	91.7	82.5	68.7	59.1	51.6
			393	262	197	151	131	113	98.1	87.3	78.5	65.4	56.2	49.2
	Plain	Lagged	373	249	187	149	124	107	93.2	83.0	74.5	62.2	53.3	46.5
			360	240	180	144	120	103	90.0	80.0	72.0	60.0	50.0	43.7
480°	Plain	Lagged	394	262	197	157	131	112	98.2	87.3	78.5	65.5	56.3	49.3
			377	252	189	151	125	108	94.0	83.6	75.3	62.7	53.9	47.1
	Plain	Lagged	360	240	180	144	120	103	90.0	80.0	72.0	60.0	51.4	45.0
			350	233	175	140	116	100	87.4	77.7	70.0	58.3	50.0	43.7

(a) 210° Average For Single Drive
(b) 420° Average For Tandem Drive

Table No. I, Courtesy Boston Woven Hose & Rubber Co.

of materials. Rollers are available in diameters from 1" to 6" O.D. In some special cases larger axles can be round or hexagon, both having their advantages. Some are the accordian type.

Where the length of a roller exceeds 28 or 30 ins., it is recommended that the three rail type frame be used. Depending on the load, usually three rollers should support the load at all times to insure the smoothest ride possible.

Considerations when specifying conveyor size: the

type of commodity or product to be moved; weight of the items; number of units moved per hour, length of conveyor; and atmospheric conditions under which conveyor will operate (the latter affects lubrication). Normally, the drop of a gravity conveyor is approximately $\frac{1}{2}$ " per foot.

Power-driven roller conveyors can be had with surface speeds of 450 to 500 F.P.M. With this type, an incline or decline of one to two ins. per foot can be designed—depending on the load.

Table No. II

H.P. to Convey Material Horizontally—Any Speed, Material

Tons Per Hour	Center to Center Length in Feet													
	50	100	150	200	250	300	400	500	600	700	800	1000	1200	1400
50	.3	.4	.5	.5	.6	.7	.8	1.0	1.1	1.3	1.4	1.7	2.0	2.3
100	.6	.8	.9	1.1	1.2	1.4	1.7	2.0	2.3	2.6	2.9	3.5	4.1	4.7
150	.9	1.1	1.4	1.6	1.8	2.0	2.5	3.0	3.4	3.9	4.3	5.2	6.1	7.0
200	1.2	1.5	1.8	2.1	2.4	2.7	3.3	3.9	4.5	5.2	5.8	7.0	8.2	9.4
250	1.5	1.9	2.3	2.7	3.0	3.4	4.2	4.9	5.7	6.4	7.2	8.7	10.2	11.7
300	1.8	2.3	2.7	3.2	3.6	4.1	5.0	5.9	6.8	7.7	8.6	10.5	12.3	14.1
350	2.1	2.7	3.2	3.7	4.2	4.8	5.8	6.9	8.0	9.0	10.1	12.2	14.3	16.4
400	2.4	3.0	3.6	4.2	4.8	5.5	6.7	7.9	9.1	10.3	11.5	13.9	16.4	18.8
450	2.7	3.4	4.1	4.8	5.5	6.1	7.5	8.9	10.2	11.6	13.0	15.7	18.4	21
500	3.0	3.8	4.5	5.3	6.1	6.8	8.3	9.8	11.4	12.9	14.4	17.4	20	23
550	3.3	4.2	5.0	5.8	6.7	7.5	9.2	10.8	12.5	14.2	15.8	19.2	22	26
600	3.6	4.5	5.5	6.4	7.3	8.2	10.0	11.8	13.6	15.5	17.3	21	25	28
650	3.9	4.9	5.9	6.9	7.9	8.9	10.8	12.8	14.8	16.7	18.7	23	27	31
700	4.2	5.3	6.4	7.4	8.5	9.5	11.7	13.8	15.9	18.0	20	24	29	33
800	4.8	6.1	7.3	8.5	9.7	10.9	13.3	15.8	18.2	21	23	28	33	38
900	5.5	6.8	8.2	9.5	10.9	12.3	15.0	17.7	20	23	26	31	37	42
1000	6.1	7.6	9.1	10.6	12.1	13.6	16.7	19.7	23	26	29	35	41	47
1100	6.7	8.3	10.0	11.7	13.3	15.0	18.3	22	25	28	32	38	45	52
1200	7.3	9.1	10.9	12.7	14.5	16.4	20	24	27	31	35	42	49	56
1300	7.8	9.8	11.8	13.8	15.8	17.7	22	26	30	33	37	45	53	61
1400	8.5	10.6	12.7	14.8	17.0	19.1	23	28	32	36	40	49	57	66
1500	9.1	11.4	13.6	15.9	18.2	20	25	29	34	39	43	52	61	70
1600	9.7	12.1	14.5	17.0	19.4	22	27	32	36	41	46	56	65	75
1700	10.3	12.9	15.5	18.0	21	23	28	33	39	44	49	59	70	80
1800	10.9	13.6	16.4	19.1	22	25	30	35	41	46	52	63	74	85
1900	11.5	14.4	17.3	20	23	26	32	37	43	49	55	66	78	89
2000	12.1	15.2	18.2	21	24	27	33	39	45	52	58	70	82	94

Table No. III

Additional Horsepower Required for Each Tripper

Width of Belt in Inches	12	14	18	20	24	30	36	42	48	54	60
H. P. to add for fixed or hand propelled Tripper	.40	.70	1.00	1.40	1.70	2.50	3.20	4.50	6.00	7.50	9.00
H. P. to add for self-propelling Tripper	.45	.80	1.10	1.50	2.00	2.80	3.60	5.00	7.00	8.00	10.00

Tables No. II & III, Courtesy Continental Gin Co.

Uses for roller conveyors: almost any type of carton, crate, drum or bag can be moved; weight is the main limiting factor. Paper bags will ride more easily than cloth bags however. Rollers may also be arranged as a chute for vertical transportation. Flexible and telescopic models are widely used where curves must be negotiated and where varying length is needed.

Note: See Table IV for Roller And Wheel Conveyor Grades Suggested For Various Commodities.

Twin Screw Conveyors: These are power driven conveyors consisting of parallel carrying members with external screw threads, one right-hand and one left-hand. The thread of pitch is coarse, and loads such as bagged material are placed directly on the carrying members. These members rotate in opposite directions, advancing the loads on the threads as in the case of a nut. Flexible drive couplings between sections permit flexibility for moderate horizontal or

Table IV

TABLE OF ROLLER OR WHEEL CONVEYOR GRADES SUGGESTED FOR VARIOUS COMMODITIES

Commodities	Remarks	Grade per cent
Wood cases	20 to 50 lb.	4
Wood cases	50 to 150 lb.	4 to 3½
Wood cases	150 to 250 lb.	3 to 2½
Cartons	3 to 7 lb.	7
Cartons	7 to 15 lb.	6
Cartons	15 to 50 lb.	5
Crates	20 to 125 lb.	5 to 4½
Barrels	Sugar type, filled	4
Drums	150 lb. and over	3 to 1½
Baskets	With wood runners (average)	4
Tire molds	1500 lb.	1½
Tires	All standard auto sizes	7
Milk cans	Empty	5
Milk cans	Full	4
Tote pans	Depending on weight and conditions	4 to 2
Lumber	Standard boards	4
Bricks	Standard sizes	4
Bobbin boxes	Empty	3½
Bobbin boxes	Filled	3
50-gal. oil drums	Empty	2
50-gal. oil drums	Filled	1½

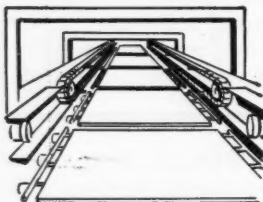
NOTE: Commodities such as bags and bales, which are handled on wood pallets, use the same grade as wood cases of similar weight.

vertical curves in the run.

Another type of screw conveyor for non-bulk material has screws as a part of a shaft which is rotated. Usually mounted overhead, this type is used widely for carrying clothes on hangers which are moved along by the rotating shaft. Likewise in-process parts can be hung on carriers and moved between work stations on this type of conveyor.

Slat Conveyors: These are power driven conveyors consisting of two strands of roller chain connected by narrow (slats) of wood or metal. Cleats may be applied to the slats at regular intervals to act as pushers on steep grades or to prevent packages from rolling on level or inclined runs. Slat conveyors are suitable for heavy loads and for products which are placed with considerable impact.

Stabilized Tray Conveyors: These are power driven and have sheet metal or wire mesh trays which



are advanced along and transferred between parallel rails arranged in tiers. By virtue of their advancement through the many levels, products may be processed for long periods with great economy of floor space and processing media.

Uses: stabilized tray conveyors are used extensively for baking, cooling or drying in the manufacture of candies and baked goods.

Trolley, Cable Conveyors: This and the trolley chain conveyor are most flexible of all types of con-

veyors, being able to travel both horizontally and on steep inclines and around corners at sharp angles. This type of conveyor operates on an endless overhead track in which the trolleys are clamped at regular intervals to an endless wire rope. The cable passes around special sheaves at the turns and loads are suspended from the trolleys by means of load carrying devices of a variety of types suited to the material being handled.

The length of such a conveyor depends on the number of drives used, which can be almost any number. Wheels may be furnished either of pressed steel, drop forgings or cast steel, in all cases heat treated to give a hard long wearing surface.

Trolley Chain Conveyors: This type is the same as the trolley cable conveyor except that the trolleys



are attached at regular intervals to an endless chain instead of a cable. The loads are suspended below the chain which acts only to transmit power to the trolleys. As is true of trolley cable conveyors, a very wide variety of loads may be carried on the conveyor—determined by the load carrier.

Baskets and trays may be used to hold small parts or even bulk material. Hooks of a wide variety of sizes and shapes may be employed to carry units which may be hung over the hook or the hook inserted through the load.

Uses: overhead trolley conveyors are widely used for transferring parts between work stations or into such processing areas as ovens, painting stations, tip tanks, etc.

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Bibliography of Films on Material Handling

just released by the Material Handling Institute

Part II: (Last month's article gave a list of available literature.) Films are available from sources given below.

AUTOMOTIVE

"Ford Rouge Plant"

30 minutes. Illustrating the control and simplicity of mass production in the world's greatest industrial unit.

Ford Motor Co.
3000 Schaefer Road
Dearborn, Michigan

"Material On The Move"

25 minutes, available in color and black and white, sound 16mm. The operational and mechanical advantages of Caterpillar Scrapers.

"The Right Material In the Right Place"

20 minutes, color, sound. A simple but highly informative treatment of the production of metals and their use in equipment.

International Harvester Co.,
Consumer Relations Dept.
180 N. Michigan Avenue
Chicago 1, Illinois

ALUMINUM

"This Is Aluminum"

16mm, sound, 35 minutes. Shows how men, machinery and electricity combine to extract aluminum from the earth's crust. Shows steps in mining bauxite, chemical processes used in refining the ore, electrolytic production of aluminum, and the principal fabricating methods.

BUILDING SUPPLIES

"Mechanize For Profit"

16mm, black and white, 45 minutes, silent, but descriptive commentary is sent out with film which runs at sound speed. Pictures latest lumber and building material handling in retail and wholesale lumber and building supply yards and warehouses.

Building Supply News
5 Wabash Avenue
Chicago 3, Illinois

BULK HANDLING

"The Story of River Sand and Gravel"

Color, 20-30 minutes. Dredging and distribution of sand and gravel from the Ohio River.

CONVEYORS

"Careers In Conveyors"

35mm, single frame, 28 minutes, sound-slide, black and white. Film accompanied by 16" record operated at 33 1/3 rpm.

"Yours To Command"

35mm, single frame, 26 minutes, sound-slide, partial color. The story of conveyors, the part they have played in American industrial history, the types available and the jobs they do.

Conveyor Equipment Mfrs. Assn.
1129 Vermont Avenue, N.W.
Washington 5, D.C.

"Zellerbach Towveyor"

10 minutes, silent. Shows Towveyor System installed at Zellerbach Paper Company, showing how it operates, etc.

"Haas-Baruch Towveyor"

8 minutes, silent film, similar to above installed at Haas-Baruch Corp.

"Chevrolet-Flint Power and Free Conveyors Systems"

15 minutes, silent. Shows the Power and Free systems of conveyors at Chevrolet-Flint.

U. S. Rubber Power and Free Conveyor System"

Running time about 12 minutes, silent like above.

"Gutter Cleaning Conveyor"

12 minutes, silent film showing the Dairy Barn Conveyor System.

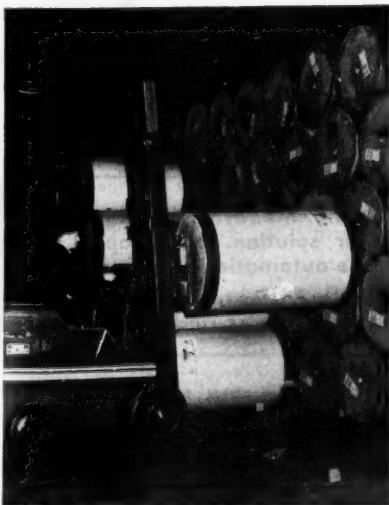
(Turn to page 64)



IN A FEW MINUTES G-E CHARGER IS CONNECTED TO BATTERY, TIME-SWITCH SET AND CHARGING IS DONE AUTOMATICALLY

Keep heavy-duty trucks on the job with G-E Copper-oxide Battery Chargers

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SERVICE AVAILABLE. If, however, service is required because of accident or other reason, it is quickly available at 29 strategically located G-E service shops.

Why not find out how G-E copper-oxide battery chargers can help you get faster materials handling at lower costs. Ask your truck agent, or write for Bulletin GEA-5292A, Section 463-5, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

463-5

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FILMS ON MATERIAL HANDLING . . .

(Continued from page 63)

"Pacemakers for Industry"

16mm, black and white, sound film, 30 minutes.

Jervis B. Webb Company
8951 Alpine Avenue
Detroit 4, Michigan

"Conveying Systems"

12mm, silent, black and white, 400 ft.

"Rapid-Standard Conveying Systems— What They Will Do For You"

400 ft., silent, black and white.

Rapids-Standard Co., Inc.
Grand Rapids, Michigan

CONTAINERS

"Harvest in a Hurry"

16mm, 17 minutes, sound, color. Harvesting methods, handling of crops between field and processing plant.

The Wooden Box Institute
55 New Montgomery St.
San Francisco 5, California

"The Container on Wheels"

16mm, 25 minutes, sound, color. Shows the uses of wooden barrels.

CRANES & MONORAILS

"Up and Over"

16mm, 19 minutes, sound, black and white. Complete picture of wide variety of overhead handling applications.

The American Monorail Co.
13108 Athens Avenue
Cleveland 7, Ohio

"Mechanization From Yard to Laddle"

16mm

Whiting Corporation
Harvey, Illinois

ELECTRICAL ACCESSORIES

"Storage Battery Power"

16mm, 20 minutes, sound, black and white. How Edison came to invent and perfect the nickel-iron-alkaline type of storage battery; where it is used and how it is manufactured.

"Modern Material Handling"

16mm, 34 minutes, sound, black and white. The use of the unit-load method of handling for reducing unit costs of production and distribution.

3 WAYS TO GET A TRUCK THROUGH A DOOR

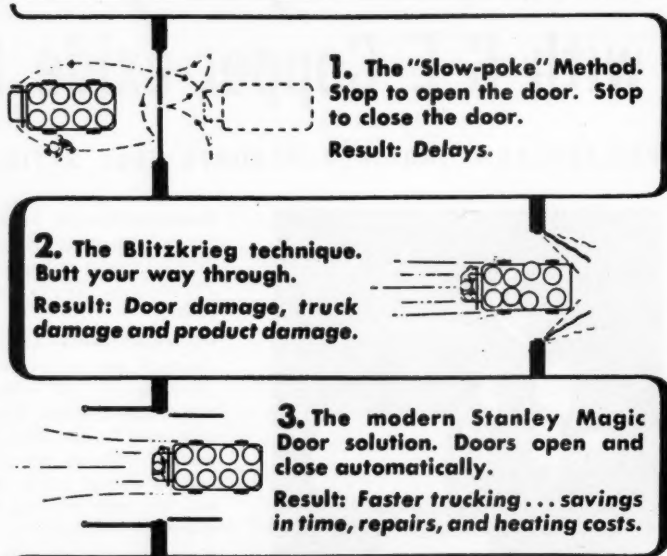
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JANUARY, 1952 • FLOW

"Modern Battery Shop Practice"

16mm, 26 minutes, sound, black and white. How to design, equip and operate battery shops for efficient charging, watering, exchanging and maintaining Edison batteries in industrial trucks.

Thomas A. Edison, Inc.
Edison Storage Battery Division
Advertising Department
West Orange, New Jersey

INDUSTRIAL TRUCKS

"Getting the Most From the Labor Dollar"

16mm, 16 minutes, sound, color. Illustrates the handling of brick; shows complete setting operation by one man with Liftall Fork.

"Liftall Forks in Concrete Block Industry"

16mm, 18 minutes, silent, color. Shows complete yard handling and rehandling of concrete block and mechanical delivery to job without hand labor.

Liftall Corporation
2007 Baltimore
Kansas City 8, Missouri

"It's Your Money"

16mm, 38 minutes, black and white, sound. Covers complete range of electric industrial trucks showing all basic types in operation in many different industries.

"On Time"

16mm, 40 minutes, black and white, sound. A complete coverage of electric industrial trucks operating in several railroad shops and yards. Covers handling of baggage, mail, freight, locomotive and car overhauling and general shop handling.

"Here's Your Worksaver"

16mm, 15 minutes, color, sound. This is an electric powered truck where the operator walks with the unit and steers and controls it by the handle.

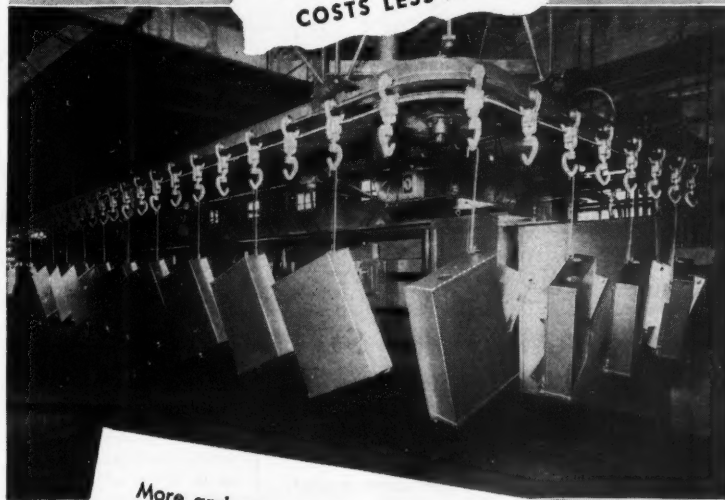
"The Pallet System of Case Handling"

16mm, 10 minutes, black and white, sound. This film covers the complete handling of Coca-Cola cases on pallets on the production line,

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"Operation Frigid"

16mm, 15 minutes, black and white, sound. It shows complete handling of incoming and outgoing merchandise in this new two story high ceiling warehouse . . . from the refrigerator car, storage and out to the street delivery trucks.

"Materials On the Move"

16mm, 30 minutes, black and white, sound. An informative presentation of industrial fork lift trucks in operation at the International Har-

vester Tractor Works . . . shows cost cutting material handling at work with important savings outlined.

"The Talking Hoist"

16mm, 12 minutes, color, sound. It's an up-to-the-minute description of the hoist integral parts with a unique interest-holding setting.

"Top Performance"

16mm, 24 minutes, color, sound. Yale & Towne's famous road show.

Yale & Towne Manufacturing Co.

Advertising Department
Philadelphia 15, Penna.

"Krane-Kar"

400 ft., 16mm, silent, black and white. Shows various operations of a mobile industrial crane.

"Heavy Duty Materials Handling"

400 ft., 16mm, silent, black and white. Shows a mobile swing boom industrial crane, a heavy duty Lift-truk and a combination unit providing the facilities of a Lifttruk and crane in various industrial and public utility operations.

Silent Hoist and Crane Co., Inc.
841-877 63rd Street
Brooklyn 20, New York

"The One Man Gang"

16mm, 35 minutes, black and white, sound. Shows actual materials handling sequences in outstanding manufacturing plants throughout the country, plus the complete line of Towmotor Fork Lift Trucks and the comprehensive group of fork lift truck accessories.

"What Makes It Tick"

Sound-slide film, 15 minutes. Shows basic fork lift truck construction features and demonstrates how new features have been developed to meet new and unusual industrial requirements.

Towmotor Corporation
1226 East 152nd Street
Cleveland 10, Ohio

"Pay Loads Pay Off"

16mm, 28 minutes, sound, black and white. Science of materials handling and all types of equipment.

"Skylift Newsreel"

16mm, 8 minutes, sound, black and white. Skylift fork trucks.

"Transporter Newsreel"

16mm, 15 minutes, sound, black and white. All walkie type units manufactured by Automatic.

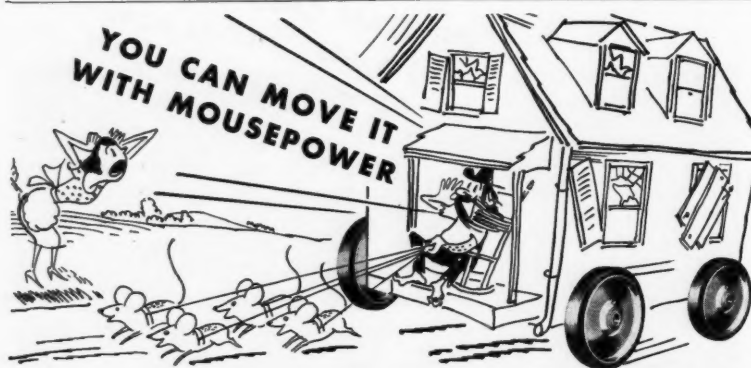
Automatic Transportation Co.
101 West 87th St.
Chicago, Illinois
Attn: R. M. Whitney, Adv. Mgr.

"Quaker Oats, Akron, Ohio"

250 ft., silent, black and white. Shows fork trucks handling and stacking bagged products in interesting and dramatic manner.

"Freight Terminal Operation"

400 ft., silent, black and white. Shows scenes in loading and unloading barge freight.



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B.F. Goodrich



Wheelbarrows for light hauls



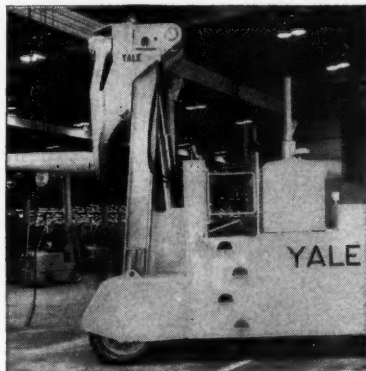
Moving heavy material for shipment



Simplifying storage problems



Hand trucks for intra-plant moves



Capable of handling heaviest loads



Loading heavy shipments in freight cars

TW ANALYSIS CAN SAVE YOU MONEY ON EVERY ONE OF THESE OPERATIONS

FOR faster, cheaper materials handling, B. F. Goodrich now offers you a tire and wheel analysis plan that's a sure, proven way to help beat rising costs, solve manpower shortages and increase output. Trained B. F. Goodrich representatives will study your operation thoroughly, make impartial recommendations regarding tire and wheel types and sizes, and also give helpful care and maintenance suggestions. This BFG service is yours for the asking—you are under no obligation whatsoever. Use the coupon for complete information.

A similar program is available for manufacturers of industrial hauling equipment.

only B. F. Goodrich has a complete line of industrial tires.



The B. F. Goodrich Co.
Department TW-152
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name _____

Title _____

Company _____

City _____ State _____



ROSS Fork Truck KEY MEMBER of HANDLING TEAM at Reserve Terminals Company

Mr. J. C. DeVenne, President, states that its unusual flexibility, plus its efficiency in performing a great variety of handling assignments ... outdoors as well as in ... make their Ross Series 15 a key factor in the efficiency of the entire handling system.

The rugged Ross Series 15 features balanced weight distribution, big pneumatic tires, powerful hydraulic system, many other top-performance features that contribute to low-cost materials handling. That's why it's first choice wherever loads are big, heavy and cumbersome ... wherever operating conditions are tough. That's why it will pay you to select ROSS. Send for details.



THE ROSS CARRIER COMPANY

Direct Factory Branches and Distributors Throughout the World

280 Miller St., Benton Harbor, Michigan, U.S.A.

Circle No. 47 on Reader Service Card for more information

"King Edward Pier, Can. Pac. R.R., Montreal, Canada"

250 ft., silent, black and white. Shows tractor trailer method handling transshipment of freight from rail terminal to ocean going ships

"Ford Motor Company"

800 ft., silent, black and white. Shows fork trucks and tractor trailer trains as applied to handling of material in Ford Branch Plant.

Mercury Manufacturing Co.
4044 South Halsted St.
Chicago 9, Illinois

8mm, color, silent film dealing with the use of Lewis-Shepard Fork Trucks and some of their walkie electric equipment which is known as the Jacklift Electric Truck.

Lewis-Shepard Products, Inc.
Watertown 72, Massachusetts

"Material Handling Newsreel #1"

16mm, black and white, 29 minutes, sound. Mechanized handling methods in various industries.

"Material Handling Newsreel #2"

Color, sound, 16mm, 12 minutes. Scenes of loading and unloading highway trucks, railroad flatcars in the yard of a manufacturing plant.

"Material Handling Newsreel #3"

Black and white, 14 minutes, sound, 16mm. Clark fork-lift trucks and attachments at work.

"Material Handling Newsreel #4"

Black and white, 20 minutes, sound, 16mm. Diversified modern materials handling methods and equipment in six different installations.

"Fairfax and Fork Trucks"

Black and white, 24 minutes, sound, 16mm. The film includes scenes of diversified methods and techniques in a variety of industrial plants, storage and distribution yards, and warehouses.

"Building The B-29"

Black and white, sound, 27 minutes, 16mm. Many good and unusual operations of fork-lift trucks and towing tractors at the Boeing Aircraft Plant in Seattle, Washington, in war production and peace-time production.

"Moving White Gold"

Black and white, 25 minutes, sound, 16mm. A review of new Clark handling methods, machines and devices available to the Cotton Industry.

"Modern Material Handling Methods"

Black and white, sound, 17 minutes,

16mm. Shows proper methods of breaking out boxcars, loading pallets, correct fork-lift truck handling methods in loading, unloading and warehousing.

"Clark Modern Material Handling Methods"

Black and white, 23 minutes, sound, 16mm. Various handling operations pertaining to boxcar loading and unloading, and warehousing; and the proper use of industrial trucks and tractors as outlined by Air Force engineers.

"Bottling Without Bottlenecks"

Black and white, 24 minutes, sound, 16mm. A survey of handling methods in bottling plants.

"Handling Rolls With The Bartel Device"

16mm, black and white, sound, 12 minutes. A revolutionary new method for roll handling.

"Handling Groceries The Certified Way"

16mm, black and white, sound, 12 minutes. The story of certified grocers of California, Ltd. and the methods it employs.

Advertising and Sales Promotion Department
Industrial Truck Division
Clark Equipment Company
Battle Creek, Michigan

MATERIALS HANDLING

"Materials Handling in Receiving, Warehousing and Shipping"

"Materials Handling"

24 minutes, sound, color, 16mm,
Film #AS-2622

General Electric Company
1 River Road
Schenectady 5, New York

"The Connecting Link to Customer Satisfaction"

Color slidefilm, 16mm, 20 minutes.

Great Atlantic and Pacific Tea Company
New York, New York

"Handling Material Economically The Hydraulic Way"

16mm, silent, black and white.

Joyce-Cridland Company
Dayton, Ohio

"Correct Working Methods"

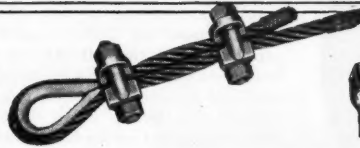
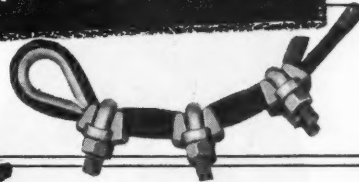
16mm, silent, 33 minutes.

(Turn the page please)

Your wire rope stays stronger
and lasts longer with

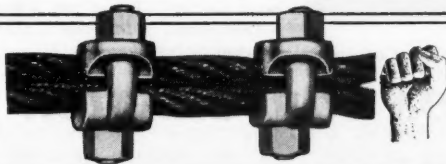
"FIST-GRIP" CLIPS

Round U-Bolts crimp wire rope in forcing live rope against saddle.



Laughlin "Fist-Grip" Clips safely secure rope on all 4 sides.

Crimping action of U-bolt leads to early breakage, costly replacement.



"Fist-Grip" Clips with all-around grip keep rope smooth — deliver maximum rope strength.

You're SURE of these benefits with "FIST-GRIP" CLIPS

SAVES TIME — easy to put on with any type wrench.

SAFER — four-bearing-surfaces do not crush or weaken rope.

STRONGER — bolts integral part of saddle. Complete unit drop-forged.

SAVES MONEY — costs less per installation in most popular sizes.

SIMPLER — can't be put on backwards.

SURER — two clips do the work of three U-bolts.

Distributed through mine, mill and oil field supply houses.

New, Valuable Data-Book Free

The new Laughlin Data-Book #150 contains a wealth of valuable information as well as a regular listing of the complete Laughlin line of fittings.



SEND IN TODAY
... no cost or obligation

THE THOMAS LAUGHLIN CO.

12 Fore St., Portland 6, Maine

Please send Catalog-Data Book #150 to:

Name..... Position.....

Company.....

Street.....

City..... Zone..... State.....

LAUGHLIN



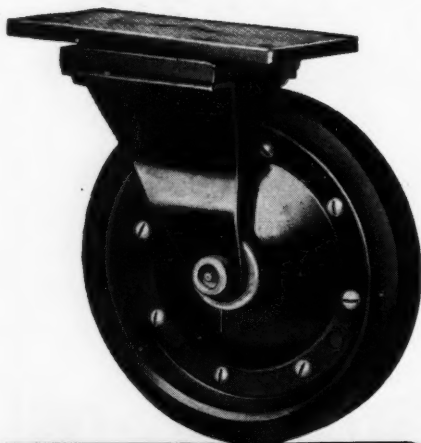
THE MOST COMPLETE LINE OF DROP-FORGED WIRE ROPE AND CHAIN FITTINGS



Circle No. 48 on Reader Service Card for more information

Circle No. 50 on Reader Service Card for more information

Efficient Materials-Handling at the "Grass Roots" Level



Model 4-807-65 Swivel fork caster — ideal for medium weight industrial equipment



CASTERS

• No matter how modern or streamlined your truck fleet, it's no better than the wheels and casters it rolls on. Surprising—how a few dollars spent for Colson casters can increase the efficiency of hundreds or thousands of dollars worth of rolling stock. There's a Colson for every need—from light casters for office furniture to heavy-duty jobs of 1500 pounds capacity.

Colson also manufactures a wide range of trucks—hand trucks, platform trucks, box trucks, drum and barrel trucks and Lift-Jack Systems. Write us or consult your phone book (under "Casters" or "Trucks—Industrial") for the Colson representative near you.

Write today for free 68 Page Caster Catalog

THE COLSON CORPORATION

ELYRIA, OHIO

CASTERS • LIFT JACK SYSTEMS • INDUSTRIAL TRUCKS

*One
man
and
a C-F Lifter...*



One man and a C-F Lifter handle the sheet steel stock in and out of storage in this plant with ease, speed and economy. C-F Lifters can pick up, carry and unload more loads per hour using less man and crane time than any other method. Note how closely a C-F Lifter piles sheets—this results in great savings in storage space. Jaw adjustments for carrying different widths of sheets are made in a few seconds by the operator—an important feature when varying sizes of stock are used.

C-F Lifters are made in sizes to handle from 2 to 60 tons in standard and semi-special designs.

Write for the bulletin "C-F Lifters." It illustrates the many cost saving advantages of these lifters.

CULLEN-FRIESTEDT CO.

1320 S. Kilbourn Ave., Chicago 23, Ill.

Circle No. 49 on Reader Service Card for more information

"Effective Working Methods"
16mm, silent, 9 minutes.

"Material Handling Methods"
16mm, silent, 25 minutes. Pictorial demonstration of Material Handling methods used by present day industry.

Methods Engineering Council
718 Wallace Avenue
Pittsburgh 21, Penna.

"Simplification of Material Handling Methods"

16mm, silent, black and white.
American Greeting Publishers, Inc.
Cleveland, Ohio

"Pay Loads Pay Off"

16mm, sound, 26 minutes, black and white. It shows management how to reduce unit costs by mechanizing Material Handling.

"If the Shoe Fits"

16mm, sound, 30 minutes. Presents a study of the flow of materials through varied operations that results in the production of finished shoes.

Institute of Visual Training
49 East 49th Street
New York 17, New York

MINING

"Power Behind the Nation"

16mm, sound, color, 38 minutes. Mining procedure in Appalachian field is shown. Transportation of bituminous coal and the work of the coaling terminal at Norfolk is covered.

Norfolk & Western Railway Co.
Roanoke, Virginia

MISCELLANEOUS

"Flow Process Chart"
16mm, sound.

Industrial Truck Association
3701 N. Broad St.
Philadelphia 40, Pa.

"How to Seal It Right With Gummed Tape"

35mm, approx. 15 minutes, sound slide film, black and white. Educational film portraying the basic fundamentals of proper package sealing with Gummed Tape.

The Gummed Industries Assn. Inc.
19 West 44th Street
New York 18, New York

OIL, MINERALS AND METALS

"Nickel Mining"
16mm, sound, 19 minutes

X179

"The Evolution of the Oil Industry"
16mm, sound, 34 minutes X187

"Zinc—Its Mining, Milling and Smelting"
16mm, sound, 30 minutes X230

POWER

"Power—by which we live"
16mm, sound, 25 minutes, color.
Story of giant power makers, the steam turbine generator.

General Electric Company
Schenectady 5, New York

POWER CRANES AND SHOVELS

"Lorains for Irrigation & Drainage"
16mm, 17 minutes, sound, color. Devoted primarily to Lorain draglines on drainage ditch, levee and dam construction.

"Lorains at Work"
16mm, 13 minutes, sound, color. Covers general construction uses of Lorain shovels, draglines, hoes.

"Thew-Lorain Pipeliners"
16mm, 20 minutes, sound, color. Covers application and uses of wide gauge crawler and rubber-tire Lorains to cross-country construction of pipe lines for transmission of gas and oil.

"Roll to Profits on Rubber"
16mm, 17 minutes, sound, color. General uses of rubber-tire mounted Lorain cranes and shovels.

"Lorains in Industry"
16mm, 26½ minutes, sound, color. Industrial material handling applications of Lorain rubber-tire and crawler cranes.

"Lorains in Pits, Quarries & Mines"
16mm, 20 minutes, color, sound. Uses of Lorain Shovels, clamshells and draglines in gravel pits, stone quarries, supply yards, iron ore and coal mines.

Advertising Department
Thew Shovel Company
Lorain, Ohio

"The Changing World"
35mm, 45 minutes, silent, black and white. The film is divided into two parts, Part One covers the functional designs of power shovels and cranes and Part Two covers job applications and job analysis.

Power Crane & Shovel Association
Suite 1611, 74 Trinity Place
New York City
(Turn to page 79)

ANNOUNCING
the
Completely
NEW



BUDA FT Series
FORK LIFT TRUCKS
DIESEL or GASOLINE
ENGINE POWERED

12 Models
in
**3000, 4000,
5000, 6000,
and 7500 lb.
Capacities**

■ **ADVANCED SAFELINED DESIGN**
—entirely new from the ground up. Buda FT Series Fork Lift Trucks embody the latest advancements in engineering, styling, accessibility, servicing and operating work performance.

■ **UTILITY ENGINEERED**—Every part and assembly of Buda FT design is strictly functional—engineered to meet owner and operator requirements for safe, easy operating performance, long life, useful economical operation, low cost maintenance and quick "less down-time" servicing.

■ **MAXIMUM INTERCHANGEABILITY**—Over 85% of replaceable parts are interchangeable between all twelve models of FT Series Fork Lift Trucks. All Diesel and gasoline models are of the same general type, design and dimensions.

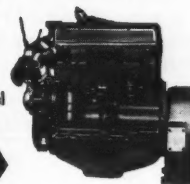
■ **HIGHEST LOAD-WEIGHT CAPACITIES**—Highest load carrying capacity for size and weight... lower center of gravity for greater stability and safety... increased traction, greater maneuverability and short turning radius for easy handling.

Packed inside the streamlined body of these outstanding new Fork Lift Trucks is more efficiency... more power... more work capacity... more stamina than you have ever seen before.

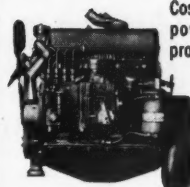
Investigate the New FT Series of Fork Lift Trucks. Write for illustrated bulletin and complete specification data today.

The Buda Company, Harvey, Illinois.

**POWERED BY
BUDA
Heavy Duty Industrial
Type Engines
GASOLINE**



DIESEL



Cost saving Buda Diesel-powered Fork Trucks provide more economical operation... longer life... greater safety, increased application and usefulness.

THE LINE WITH ALL 3 FOR DIVERSIFIED HANDLING

8H-36A

BUDA

Manufacturers of Diesel and Gasoline Engines, Maintenance of Way Products, Lifting Jacks, Earth Drills and Material Handling Equipment



Circle No. 51 on Reader Service Card for more information

USEFUL

BULLETINS • BOOKLETS • CATALOGS

The publications featured on these pages were written by experts. They are FREE publications. To obtain them use the postcard bound into this issue.

Contributions made by engineers of Allied Steel and Conveyors Inc. toward the solution of many tough conveyor and material handling problems are discussed in an eight-page catalog published by that company. Allied maintains a staff of consultants for leasing out on a temporary basis to plants where there is a need for an experienced engineer to help solve a particularly tough problem. This booklet tells you about it.

Circle No. 150 on Reader Service Card for more information

The complete line of electric trucks made by Philadelphia Division of Yale & Towne Mfg. Co. is described in a new 12-page brochure. It covers generally, the types of trucks available in capacities from 1,000 to 100,000 lb. A table to aid in selection and application data is also included.

Circle No. 151 on Reader Service Card for more information

"Clean oil is cheaper than new machinery", says Marvel Engineering Co. in a brochure describing its Marvel Synclical Filters. How you can get clean oil is graphically described and illustrated in eight pages of photos, engineering data, test data, and construction diagrams.

Circle No. 152 on Reader Service Card for more information

Coal and ash handling equipment made by Link-Belt Co. is described in a new 44-page catalog. Layout drawings and interesting photographs of actual installations are used freely throughout the book. Some of the subjects covered include, unloading coal, auxiliary unloading, ash handling, and water intake screens.

Circle No. 153 on Reader Service Card for more information

Complete specifications and explanations of the special features of Raymond Hydraulic Lift Trucks are contained in literature offered by the Raymond Corp. It describes pallet trucks and high lift trucks too. All of them may be operated hydraulically.

Circle No. 154 on Reader Service Card for more information

The extensive line of steel-framed hand trucks manufactured by the Fairbanks Co. is described in a four-page folder recently released. Platform trucks are discussed on the first page. Then comes a description of two wheel hand trucks, and on the last page a number of standard special purpose trucks are illustrated.

Circle No. 155 on Reader Service Card for more information

Precision Equipment Co. tells about its material handling equipment in an eight-page pamphlet. Items from small parts stacking boxes and bins to several types of steel trucks and safety ladders are illustrated. Prices are also given.

Circle No. 156 on Reader Service Card for more information

Information about Baker fork trucks at work is presented in Report No. 243. This case study tells how National Lock Co. reduced carloading time 60%, and how it increased storage capacity more than 200%. Published by the Baker Industrial Truck Division of the Baker-Raulang Co.

Circle No. 157 on Reader Service Card for more information

The Ratchet Rack is adjustable without bolting. With it, you can adjust shelves quickly and easily to conserve time and space. Borroughs Mfg. Div.-American Metal Products Co. tells all about the rack in a new engineering data and proposal form.

Circle No. 158 on Reader Service Card for more information

Rust Cure, an anti-rust paint is the subject of a bulletin being offered by The Monroe Co., Inc. According to the literature, here is a paint which can be applied right over rust to stop it and to cut maintenance costs.

Circle No. 159 on Reader Service Card for more information

A broadside from Towmotor Corp. bears the title, "Tow-motor-ize for Mobility". It tells you how this company's fork lift trucks can provide high speed material handling in your plant.

Circle No. 160 on Reader Service Card for more information

Stacking Baskets made of wire, wire mesh, expanded metal, or perforated metal are described in a bulletin from Wire and Iron Products Inc. Trade named Eezy Stak, the baskets are ideal for carrying a wide variety of small parts. Dimensions and specifications are given.

Circle No. 161 on Reader Service Card for more information

If you need to move, settle, or package material quietly, the Cleveland air-cushioned vibrator, described in new literature may be what you are looking for. It's for use on bins, hoppers, chutes and a variety of other material handling devices. Maker is Cleveland Vibrator Co.

Circle No. 162 on Reader Service Card for more information

Bulletin P809 of the Yale & Towne Mfg. Co. describes the Worksaver trucks made by that company. These ride-em or walk-em type trucks are designed for applications where high maneuverability is desired. A special section shows the various attachments available.

Circle No. 163 on Reader Service Card for more information

Circle No. 52 on Reader Service Card for more information

WILCO PALLETS

"A TRADE MARK YOU CAN TRUST"



"WILCO" MEANS BETTER PALLETS
Why not try them in your plant?

WILLIFORD MFG. CO.

Box 6095-F, Buntyn Station
MEMPHIS 11, TENNESSEE

You can increase
YARD STORAGE SPACE
50% or more...
with the LULL
Hydraulic
Traveloader

Low stacks, wide aisles and large turning areas can waste 50% or more of your storage space! The side-loaded Lull Traveloader puts this wasted space to work in three ways: (1) Higher Stacking—Traveloader lifts 10,000 lb. loads to top of 12' stacks; (2) Narrower Aisles—Traveloader loads, carries and delivers material up to 60' long—in 10' aisles; and (3) Shorter Turning Radius—Traveloader needs 50% less turning area than most conventional carriers.

The roomier yards made possible by the Traveloader gives you constant access to all stacks, reduces fire hazards and avoids "burying" of old stock.

Write for Complete Information...TODAY!

LULL Manufacturing Company
3612 East 44th St. • Minneapolis 6, Minn.
Export Office: 105 West Fourth St., Cincinnati 2, Ohio Cable Address: "REPRINT"



LUMBER, STEEL, PIPE or PALLETS

... whatever your materials handling problem, it will pay you to investigate Lull Traveloader.

Circle No. 53 on Reader Service Card for more information

Four ways to simplify handling of tubing and bar stock in steel warehouses are presented in a folder by The Cambridge Wire Cloth Co. It tells how Cambridge Gripper Woven Wire Slings are used in unloading, processing, stocking and shipping operations.

Circle No. 164 on Reader Service Card

American Hoist & Derrick Co. has published an eight-page booklet describing its portable material elevator. Speeded up assembly, larger platform, redesigned traveling carriage and a new tower erection

device are some of the features covered in the book.

Circle No. 165 on Reader Service Card

The Industrial Truck Association offers literature on its powered industrial trucks. The material tells you one way to help yourself to lower material-handling costs and lower production costs.

Circle No. 166 on Reader Service Card

Going up or coming down, at angles up to 30 degrees, Republic

Super Grip Rough Top Conveyor Belts keep materials moving safely and surely. This claim and the reasons why it is so are discussed in literature available from Republic Rubber Division of Lee Rubber & Tire Corp.

Circle No. 167 on Reader Service Card

Typical installations of crane and monorail systems by Modern Equipment Co. are illustrated in a 34-page booklet now being distributed. Engineering drawings and specification tables are used throughout to make possible a complete understanding of every type of installation.

Circle No. 168 on Reader Service Card

Interesting uses of Motorola communications equipment are reported in each issue of the Motorola Newsgram. Currently, the use of two-way radios in industrial plants, logging camps and fire fighting activities are featured. You can get on the mailing list for this periodical.

Circle No. 169 on Reader Service Card

Want to know about one way to speed up the handling of heavy finished goods or raw materials to and from loading platforms, store rooms and production lines? A catalog offered by Engineering Products Co., Inc., will tell you about Epco Trackage.

Circle No. 170 on Reader Service Card

Morse equipment and accessories for safe and efficient handling of drums, cans and bottles are described in literature of the Morse Mfg. Co. Morse accessories are also illustrated and explained. Specifications and prices are included.

Circle No. 171 on Reader Service Card

The S-A Ship Trimmer is a centrifugal action thrower unit for loading and trimming cargoes of bulk material in a ship's hold. Bulletin 951 of the Stephens-Adamson Co. tells how the trimmer leads to increased speed and easier, cleaner loading.

Circle No. 172 on Reader Service Card



ALL THE WORLD comes to Cincinnati for machine tools, pianos, radios, television sets, soap and conveying systems—**A-F Engineered Completely Co-ordinated Conveying Systems.**

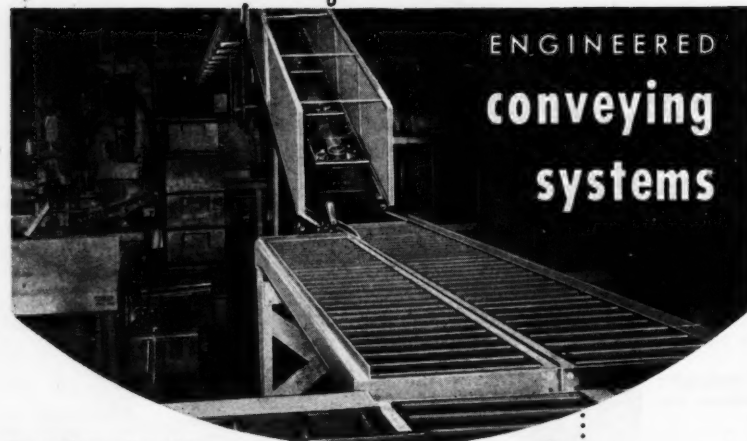


Cincinnati

home of

ALVEY-FERGUSON

the original—Since 1901



ENGINEERED
**conveying
systems**

For a discussion of latest efficient handling methods write:

THE ALVEY-FERGUSON COMPANY

433 Disney Street, Cincinnati 9, Ohio

OFFICES OR REPRESENTATIVES IN PRINCIPAL CITIES

Circle No. 54 on Reader Service Card for more information



YOU CAN SEE
the SUPERIORITY of
ALVEY-FERGUSON
Conveyor
ENGINEERING

Mechanical Handling Systems, Inc., tells about MHS Work Carriers in a four-page pamphlet now being offered. The carriers serve as temporary and portable storage rooms, avoiding the necessity of loading pieces into bins or shelving and then taking them out again. Photographs are used freely to illustrate uses.

Circle No. 173 on Reader Service Card

The Ray-Man Conveyor Belt is described in a bulletin issued by Raybestos-Manhattan, Inc. The belt was designed for application where there is danger of tearing or puncture, where small pulleys are used, where more flexibility is required, where better fastener life is needed and where thick, narrow belts are required.

Circle No. 174 on Reader Service Card

The current issue of Material Handling News, published by Clark Equipment Co., discusses the best use of material handling equipment for achieving savings through place and time utility. Starting with the receiving dock, techniques are outlined through storage, processing and assembly, warehousing and finally shipping.

Circle No. 175 on Reader Service Card

To help you protect your investment and to assure you continuity of service, Baker Industrial Truck Division of The Baker-Raulang Co. has published a bulletin on the care and maintenance of industrial trucks. Fourteen pages in length, it contains valuable hints on all phases of truck care.

Circle No. 176 on Reader Service Card

Wheel-Ezy hand trucks are available in four models from Rapids Standard Co., Inc. Photos and full details on these trucks and on four types of wheels which are available are contained in a new two-color bulletin.

Circle No. 177 on Reader Service Card

Construction and operating features of the Baker type FS 2000 lb. fork truck are contained in Bulletin 1327 released by Baker Industrial Truck Div. of Baker-Raulang Co. Dimensions and specification sheets are used to give complete engineering information.

Circle No. 178 on Reader Service Card

An annual report which illustrates manufacturing facilities and material handling products has been released by Pettibone Mulliken Corp. Short explanations of the various types of equipment are also included.

Circle No. 179 on Reader Service Card

The Link-Belt News is "Devoted to the application of Material Handling and power transmitting machinery for solving the modern

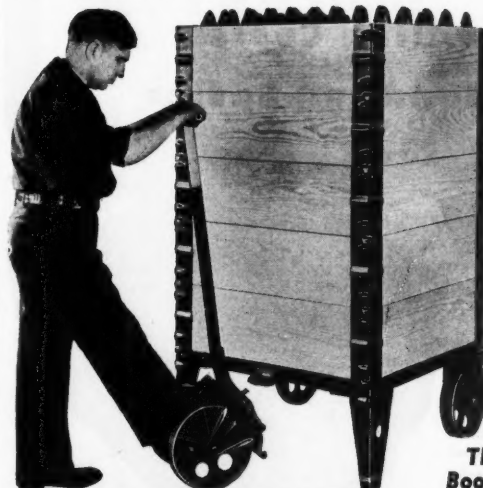
problems of industry." Link Belt Co. would like to put you on the mailing list for this monthly publication.

Circle No. 180 on Reader Service Card

Industrial Wheels are illustrated and described in a four-page folder offered by Dico Co. Lug base, drop center, and demountable rim types are discussed. Complete specifications are given.

Circle No. 181 on Reader Service Card

THE TURNER SYSTEM OF MATERIALS HANDLING FOOD FOR THOUGHT:



Removable Bin Sections on Movable Transport.

**"Deliver
the Bin
and SAVE
the Handling"**

**What would it mean
to YOUR Business?**

Picture your operations COMPLETELY mobile — everything on wheels. Give two minutes thought to the vast savings that would ensue.

**Then Send for this Free
Book on the Turner System**



Die Racks
that take
Dies to Machines.



Pallets for Every Use. 3 Deck Styles.

Write today for your Free Book

FACTORY SERVICE COMPANY
4607 N. TWENTY-FIRST STREET MILWAUKEE 9, WISCONSIN

Circle No. 55 on Reader Service Card for more information

Advantages of automatic unloading of power presses with the Sahlin Iron Hand are described and illustrated in an eight-page catalog issued by Sahlin Engineering Co. Three sizes to suit large, medium and smaller presses are available. Complete installation and operation instructions and parts lists are included.

Circle No. 182 on Reader Service Card

Efficient handling of raw and finished materials, their proper storage, and how up-to-date handling

machines can expedite manufacture to cut costs, save time and money is the theme of a pocket-size booklet "Basic Facts About Materials Handling." Published by Clark Equipment Co., it also discusses the latest equipment in the material handling field and how to figure costs of its use.

Circle No. 183 on Reader Service Card

Rite-Hite, "the bridge between carrier and dock" is the subject of a four-page pamphlet offered by Karl A. Herman Co. Because it

makes every carrier approach perfect, it saves time, and because it requires no maintenance it reduces expenses. An installation drawing and complete specifications are included in the pamphlet.

Circle No. 184 on Reader Service Card

What's your material handling problem? You name it, and Lippmann Engineering Works will show you how one of its engineered conveyors fits the bill. Bulletin 1490 contains all the details.

Circle No. 185 on Reader Service Card

"It's your money! You want to get the most out of each material-handling dollar," says Yale & Towne Mfg. Co. in "The How Book of Cost-Cutting Materials Handling." A practical method of checking your handling costs is offered. Photographs show how many companies have employed modern machinery and methods of material handling to boost efficiency.

Circle No. 186 on Reader Service Card

You won't have any trouble selecting the right conveyors, trucks, and industrial casters with a 28-page catalog offered by Rapids-Standard Co. It contains hundreds of photos, sketches and charts that show what each item of Rapistan equipment is, how it works, and what type of material it will handle. Free field reports on how firms have solved handling problems with Rapistan equipment are offered on the back cover.

Circle No. 187 on Reader Service Card

One man can move five tons with the new Arnolt Rol-R-Lift. Described in a catalog page of Arnolt Motor Division, Arnolt Corp., it is available in three models. The literature gives complete prices.

Circle No. 188 on Reader Service Card



Cesco Tote Boxes

...Cut Handling Costs
...Make Handling Easier



SPECIAL CESCO FEATURES

- Lightweight
- Self-Stacking
- Quieter Handling

... ruggedly constructed of hardwoods . . . steel reinforced (specially coated steel to prevent rust) . . . riveted for maximum rigidity.

An added Cesco feature . . .

CESCOAT

A new wood preserving process . . . waterproofs . . . grease-proofs . . . is acid resistant

OTHER CESCO PRODUCTS

- Wire Baskets
- Tote Trays
- Special Pallets



CESCO'S 3 STANDARD BOXES
(Prices Net)

Lots of	No. 1	No. 2	No. 3
2000	\$1.80	\$2.05	\$2.20
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• No. 1 size — (I.D.) — 14 $\frac{1}{2}$ " x 11 $\frac{3}{4}$ " x 9"

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CESCO

CONTAINER CO.

General Offices: 475 Fifth Ave., New York 17, N.Y. • Phone MU. 5-4961

Factory: Northampton, Mass.

WIRE ROPE . . .

(Continued from page 55)

ber of clips for rope:

1/2" through 5/8".....	3
3/4" through 1".....	4
1 1/8" through 1 1/4".....	5
1 3/8" through 1 3/4".....	6
2" through 2 1/4".....	7
2 1/2".....	8
Over 2 1/2".....	9

Operation: Here's where carelessness really kills good rope. And it starts right at the spooling on the drum. Criss-crossing rope on grooved drums cuts it quickly. If the rope keeps jumping out of the grooves, check to see whether a more flexible rope is needed, or whether you are letting the drum run too freely. Snapping the rope and jerking it are sure ways to invite trouble.

Even though wire rope has a built-in safety factor of 4 to 6, overloading can cause serious damage. Stressing beyond the elastic limit of the wire can ruin it long before it actually breaks from overload. Don't blame the maker if you have trouble: his definition of *safety factor* is based on operation at rated speed and power. Keep loads to 3/4 of rated load and you'll add to the rope's life. Remember the added strain starting and impact loads place on it: start slowly when picking up a heavy load.

Rope care: Some manufacturers used to put out manuals giving hard-and-fast rules for inspection and replacement procedure. They stated definitely the number of exposed wires within a given length of rope that could be broken before replacement was needed. But that sort of thing doesn't prove too practical. There are so many unmeasurable factors to be considered—type of use, frequency of lubrication, climate, etc.—that most wire rope makers tell you to just let your noodle and experience tell you when your rope has earned retirement.

They insist, though, that you pay special attention to your equipment: things like worn sheaves or guards are deadly.

Maintenance means two things:

1) shifting wear points by cutting off ends or by switching ends, and
2) lubrication. The rope is lubricated internally as it is made, as a rule; but exposure dries out the oil. Replacing it properly will prolong rope life. One maker suggests these four lubrication rules:

1) Use the right stuff. A good rope lubricant is one that sneaks under moisture and forms a protective film between it and the steel. It should have a rust inhibitor and should keep its lubricating

film intact under high pressures.

2) Use the right consistency. On construction rope, you need a very light grade that is absorbed before surface dirt absorbs it or it is worn off.

3) Use just a little at a time. Otherwise, the excess runs off and is wasted, messing up equipment in the process.

4) Lubricate frequently. The more often wire rope is lubricated, the better the protective film is maintained.

—Photos, Courtesy, Macwhyte Co.



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LANCO MATERIAL HANDLING EQUIPMENT

LANSING, MICHIGAN



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EASY INDEX . . .

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LOAD UNITS . . .

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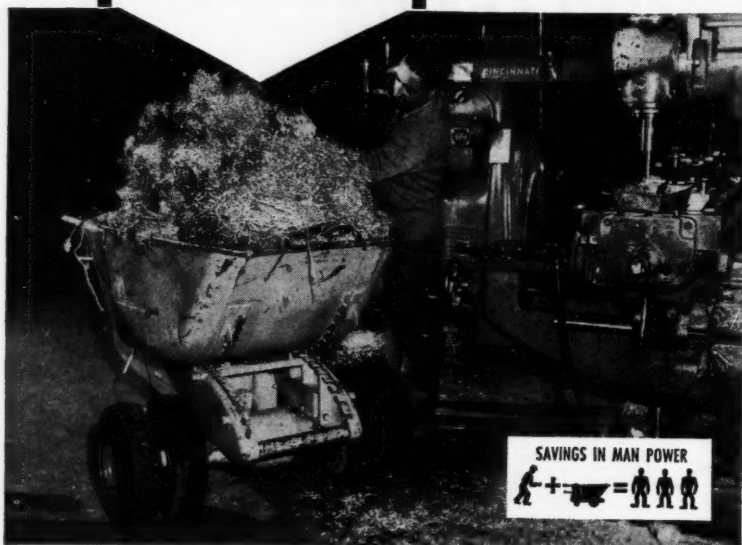
1. Shipping Beams: double deck pallets are used to ship 18 beams weighing 990 lb., with a tare of less than 100 lb. Steel strapping is again used to secure the entire load which is handled by a fork truck. (See Photo 7.)

2. Shipping Wire: contour rolled wire is loaded 10 high on skids with fibreboard spacers between; a total of 40 rolls are shipped per skid. Additional fibreboard sheets are placed on all sides of the load, wooden supports across the top, and the entire load secured by strapping. (See Photo 8.)

These have been a few of our experiences with load units—and they have paid off handsomely for us. They can do the same for you.

THIS IS ONE PLACE IN YOUR PLANT FOR PRIME-MOVER

Loaded to the guards, this Prime-mover is hauling away scrap from production machines. Carries 1500 lb. load under power (forward and reverse). Dumps and returns to load position, automatically.



Aids your "Good Housekeeping" Program!

Wherever there are filings, cuttings and other scrap to be cleaned up and moved away, Prime-Mover helps maintain a regular "plant clean-up schedule." You know that Good Housekeeping pays dividends in factory operation. Prime-Mover helps to get the job done speedily with a saving in manpower as a bonus.

Outside the plant too, Prime-Mover assists in clean up and yard maintenance. The 10 cu. ft. bucket is interchangeable with a 9 sq. ft. platform. An improved blade at-

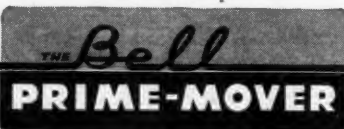
tachment handles snow removal rapidly and effectively.

Anyone can operate a Prime-Mover with little instruction. Controls are positive and conveniently placed. Runs all day on a tankful of gasoline. This versatile machine can be used on many bulk handling and maintenance jobs around your plant. Supplies the capacity and power to save the time and wages of three men—often more.

Write to us for helpful data on the many bulk handling jobs that Prime-Mover does.



THE PRIME-MOVER CO., Muscatine, Iowa



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HANDLING FILMS . . .

(Continued from page 71)

RAILROAD

"Handling of Materials Methods and Equipment"

16mm, 20 minutes, silent, black and white. Rock Island shops at 51st St. (Chgo) and Silvis Shops at Silvis, Illinois.

Rock Island Lines, Public Relations Dept.
Rm. 921 LaSalle St. Station, 139 W. Van Buren St.
Chicago 5, Illinois

RUBBER

"Free Ride"

20 minutes, sound, black and white. Truck tire film.

"How many Lives has a Tire?"

20 minutes, sound, black and white. Sales film on recapping.

General Tire & Rubber Co.
1708 Englewood Avenue
Akron, Ohio

SAFETY FILMS

"Giant Hands of Industry"

35mm, sound-slide film, 15 minutes. Points out the main causes of crane accidents and illustrates standard hand signals and safety tips.

"You and Your Tractor"

35mm, sound-slide film, 15 minutes. Explains the safe operation of industrial power trucks also proper loading and maintenance.

SAFE PRACTICES PAMPHLETS

Number

4. Overhead Traveling Cranes
15. Elevators
26. Wire Rope
33. Hoisting Apparatus
35. Conveyors
50. Reducing Fatigue
54. Manual Handling of Materials
55. Industrial Power Trucks & Tractors
59. Warehouse and Shipping Rooms
98. Use and Care of Hoisting Chains

Available from:
National Safety Council
425 N. Michigan Ave.
Chicago 11, Illinois

"Freight Handling Safety"

35mm, sound-slide film, also available

in 16mm. A highly specialized film covering standard procedures on how to lift, carry and pile materials and how to operate a hand truck.

"Freight Handling Safety"

16mm, sound, motion picture, 11 minutes. Materials Handling film on standard procedures on lifting and piling; hand trucks; loading and unloading.

National Safety Council
425 N. Michigan Avenue
Chicago 11, Illinois

"Problem No. 1, The \$20,000,000 Challenge"

35mm, sound-slide film, 22 minutes.

A 70 frame sound film on claim prevention. Points out high cost of loss and damage claims.

Freight Claim Dept., ATA 1424
16th Street
Washington, D. C.

STEEL

"This is Steel"

16mm, sound, 28 minutes. Production of pig iron in the blast furnaces; refining of iron into steel; shaping of steel.

(Turn the page please)

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... You'll find two important differences! Because **LODOVER** overhead loading eliminates 2 full turns in every loading cycle, you get —

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New York 20, New York

"The Making and Shaping of Steel"
16mm, or 35mm, black and white, sound or silent. 11 to 15 minutes. A detailed story of how steel is made and converted into useful forms.

"Steel . . . Man's Servant"
16mm, or 35mm, color, sound, 38 minutes. Tells the story of steel from the time the raw ore leaves the mines until the finished product leaves the mills.

Bethlehem Steel Co.
Bethlehem, Pa.

"The Drama of Steel"
16mm, 34 minutes, sound, black and white.

U. S. Department of the Interior
Bureau of Mines
4800 Forbes Street
Pittsburgh 13, Penna.

"Steel"
16mm, sound, color, 34 minutes. Describes the steel industry in Britain from digging of ore to finished product.

STEEL STRAPPING

"Unit Load Methods"
16mm, black and white, silent, 43 minutes. Illustrates use of trucks and the bracing of various types of commodities for carload shipments.

"Lumber"
16mm, black and white, silent, 21 minutes. Handling bundled lumber with fork and straddle truck, and new type carrier truck from flat cars, compared with handling from box cars.

"Textile Industry"
16mm, black and white, silent, 26 minutes. Packaging and handling by conveyor, truck, etc. all types of packages and bales within the textile industry.

"Bauer & Black"
16mm, black and white, silent, 10 minutes. Handling export packages.

"Paper Industry"
16mm, black and white, silent, 21 minutes. Packaging and bracing carload shipments of paper.

"Flooring Industry"
16mm, black and white, silent 19 minutes. Showing new method of assembling and change to a more secure modular form of bundling flooring.

"Blatz Brewing Company"
16mm, black and white, silent, 20 minutes. Illustrates complete conveyor system of handling bottles.

Acme Steel Company, Strapping Div.
2840 Archer Ave.
Chicago 8, Illinois

TEXTILE

"Textiles Unlimited"
16mm, sound, color, 28 minutes. Film #AS-2665. The recent trends in the textile industry. A definite portion of the film emphasizes the trend toward the use of modern materials handling equipment in this industry.

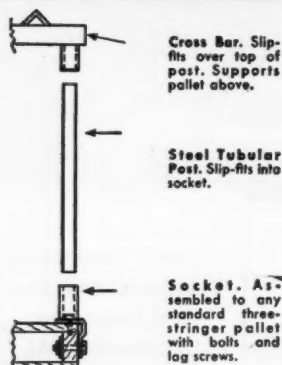
General Electric Company
Schenectady, New York

UNIT LOADS

"Material Handling in Exide Plant"
16mm, 22 minutes, sound, black and white. Palletized Unit Loads and battery powered fork and hand trucks.

The Electric Storage Battery Co.
42 South 15th Street
Philadelphia 2, Penna.

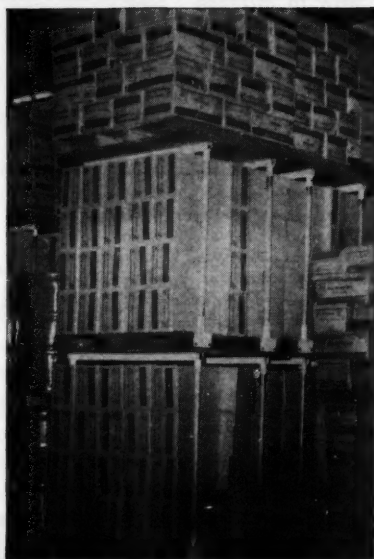
NOW—a standard 3-stringer pallet can be converted into a **Stacking Pallet** with **THE PALTEAM** for crushable and odd-shaped materials . . .



THE PALTEAM is simply a pair of tiering horses. Posts slip-fit into sockets and the cross bars which slip-fit over top of posts provide support for center stringer of superimposed pallet. Easily disassembled for compact storage when not in use. PALTEAM-equipped pallets can also be made into racks.

Now—practically ANYTHING can be palletized.

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THE PALTIER CORPORATION
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DISTRIBUTORS IN PRINCIPAL CITIES

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MOBILE CRANES . . .

(Continued from page 43)

necessary normal adjustments, and which will assure the proper replacement of parts.

In the case of old equipment, certain steps should be taken to prolong the natural life of the machine. A few precautions can greatly extend the time between major overhaul jobs.

Lubricants, motor oils and greases should conform to manufacturer's recommendations, and should be products of reputable firms. Regular intervals of lubrication will eliminate the "guesswork" concerning the number of hours worked. Manufacturer's charts on seasonal changes in viscosity should be followed closely.

One important detail to remember is the periodic examination of lubrication tubes. Too often it has been discovered too late that a grease tube has failed or become clogged, and that grease was not reaching its intended goal. When that happens, some bearing will fail for lack of grease, which may also result in damage to a shaft or other important part. Replacing such shaft or part is often difficult and may result in a long, costly shutdown which could readily have been prevented by careful maintenance.

Clutches should be inspected closely to make sure they are maintained in good condition and adjustment. It should be determined whether or not the clutch is wearing properly. Linings should be examined closely and kept clean and free from grit and other foreign particles to eliminate scoring of drums. Center pins should be checked and tightened as needed. Drive chains should be kept in adjustment, and sprocket chains examined for undue wear. Bushings should be watched to avert shaft scoring. Engine filters must be changed at specified intervals to safeguard the power plant of the machine.

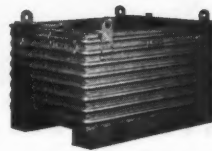
Turn the page please

Here's why logged BRUSCO handling equipment increases efficiency

BRUSCO CORRUGATED STEEL BOXES

Save floor space — stack safely from floor to roof. Four way entry for fast, efficient handling. Equipped with crane lugs for movement by crane. Fabricated from heavy gauge corrugated steel to give added rigidity and maximum strength.

Thoroughly and securely arc welded for longer, maintenance free life. Made in various sizes and load capacities to suit your requirements.



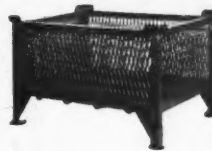
BRUSCO SELF-DUMPING HOPPER

Speeds production and saves labor in handling parts and materials in your plant. Easy to move and simple to operate. Hopper is fabricated of heavy steel plate thoroughly reinforced. This unit is equipped with a new, cast steel rocker and hardened pins for longer service. Made in 1/2, 1, 1 1/2 and 2 cubic yard capacities. Underclearance optional.



BRUSCO CASTING COOLING BOXES

Shortens cooling time. Stacks quickly, safely and saves vital floor space. Made in sizes and load capacities to fit your particular requirements.



These are only a few of the *Standard* items in the complete BRUSCO material handling line. These and the many other BRUSCO units can be built to meet your specific needs. Remember, every BRUSCO material handling unit is built to speed, simplify and ease your materials handling. Write today for full information.

Brusco

HANDLING EQUIPMENT

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4
SIZES



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TWIN LIFTER



HAND GRIP



DRUM FILTER



DRAG CLAMP



DRUM OPENER

3-M-1



MERRILL BROTHERS
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MASPETH, N. Y.

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82

Order Parts In Advance

Good maintenance also entails the advance ordering of needed parts. Many parts, such as linings, cables, dipper and bucket teeth, and the like, are essentially wearing parts, and must be replaced periodically. It is essential that such parts be kept on hand for quick and convenient replacements. There are also other parts that, from experience, should be kept on hand to avoid costly shutdown and delays when such replacements are needed. By periodic and systematic inspections, it is also possible to anticipate other required replacements, and to have such parts on hand to install at the most convenient time. This is especially important now when replacement parts may not be available as quickly as in normal times, and when uninterrupted operation is more important than ever.

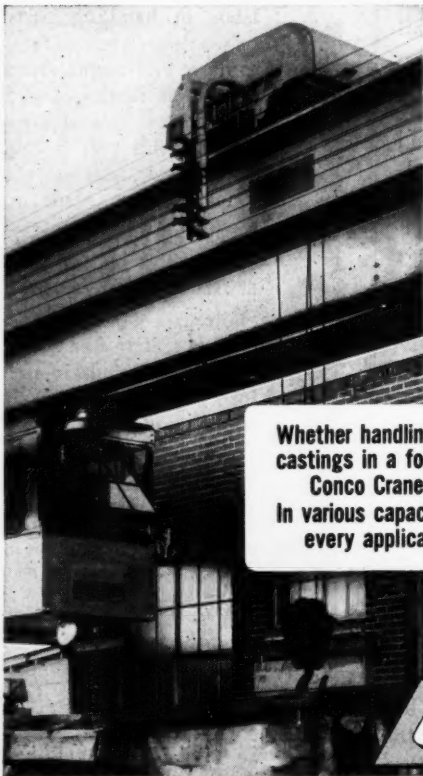
Machine cleanliness is paramount in good care and maintenance. Good "housekeeping" is

conductive to good care and maintenance, and a well cared for machine is invariably also a clean machine. Pride in keeping the machine clean will instinctively encourage the operator to pay close attention to the proper care and mechanical condition of his machine, the importance of which cannot be stressed too strongly.

Periodic cable inspection is vital in all machines. A frayed cable should be promptly replaced, particularly if it is a load-carrying cable. Although it may be subjected to little actual running wear, the boom hoist cable—which is a load-carrying cable—also should be inspected frequently, since its failure could well result in serious damage or even personal injury. In these inspections, all cable connections should also be checked.

How About Overhaul Jobs

Overhaul jobs, which in normal times may have been undertaken without too much forethought, assume major proportions in times of



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Performance*

Whether handling steel in the yard, castings in a foundry, or servicing a machine shop, Conco Cranes rate first for performance. In various capacities and spans, a type for every application. Write for details.

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JANUARY, 1952 • FLOW

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FLOW

emergency such as the nation is currently undergoing.

First step in such an overhaul job must be to determine the extent of the job. This calls for a detailed study and examination. Ordering additional material after the original order has been sent in can be avoided by making a careful first estimate. Definite shipping dates should be received. Better yet, no equipment should be disassembled until all material is on hand. Not too infrequently, a small item out of a large order can tie up a major repair job because of some supplier's inability to live up to a promise.

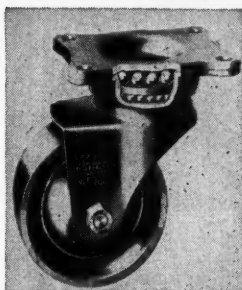
Local facilities for the job to be done must be explored to make certain the job can be completed in the least possible time. If local sources prove inadequate, improvisations can usually be made. Often it is wiser to move the equipment nearer to the proper facilities for repair and overhaul.

With the present material shortage at hand, consideration should be given to rebuilding parts, especially those which can be welded to return to original dimensions. Track sprockets, track rollers, track shoes—all can be rebuilt with hard surface rod to extend the life of these parts. Bores that have been worn oversize, can frequently be welded and rebored to standard size so as to make future replacements easier. Shafting—depending upon application—can sometimes be metal-sprayed satisfactorily. When possible, a plating process should be used to salvage shafts.

Complete overhaul jobs, if properly planned, can be accomplished with a minimum amount of down time even considering the present scarcity of material.

Proper equipment maintenance is doubly important in such a situation as the nation is facing today. With material shortages and replacements parts harder to obtain, it is vital that existing equipment be carefully serviced to provide longer life and a resultant better performance.

A SAVING AT EVERY TURN



Darnell Casters

**DEPENDABILITY,
AND QUALITY**

**Reduce floor and
equipment wear to
a minimum — in-
crease employee
efficiency with
the casters that
"always swivel and
roll."**

FREE Manual

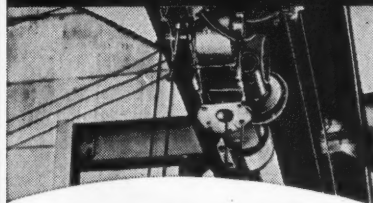


DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA

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36 N. CLINTON CHICAGO 6, ILL.

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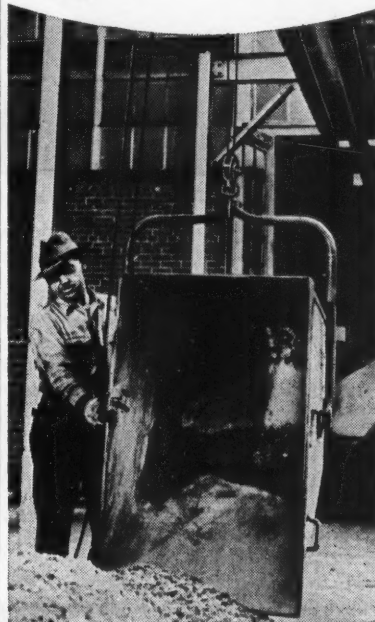
This Hoist LIFTS PRODUCTION LOWERS COSTS *Here's Why...*



Each READING ELECTRIC HOIST installed in your plant is "tailor made"—at no extra cost—to fit your own handling operation. As a result you get a hoist that quickly moves your materials safely and easily.

Then too, the simple design of a READING ELECTRIC HOIST gives you a sure way to cut maintenance costs. There are only four moving parts in the hoisting unit. Each part is "easy-to-get-at" for routine inspection and overhauling.

For more information on how you can step-up production and cut costs with READING ELECTRIC HOISTS, contact your nearest Reading Distributor. And if you haven't already sent for your free copy of "144 Answers To Your Hoisting Problems," drop us a line today.



READING CRANE & HOIST CORPORATION
2108 ADAMS ST., READING, PA.

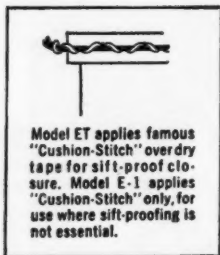
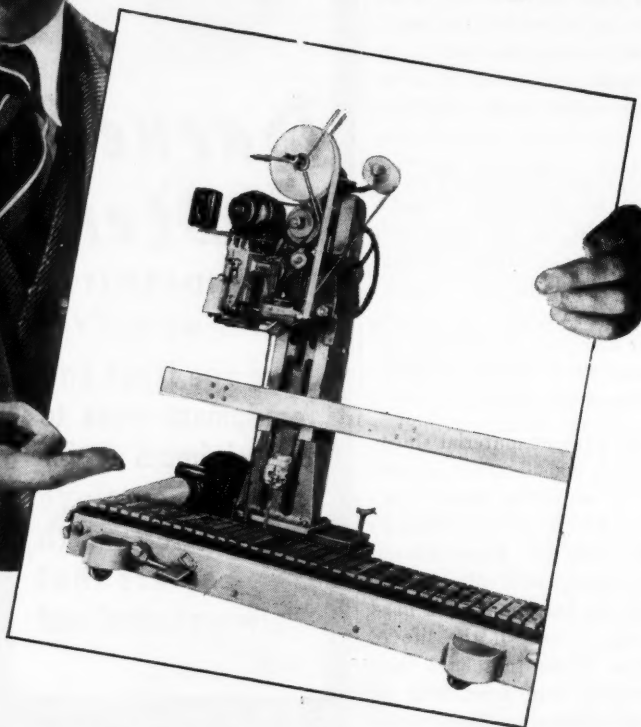
**CHAIN HOISTS • ELECTRIC HOISTS
OVERHEAD TRAVELING CRANES**

READING HOISTS

Circle No. 66 on Reader Service Card



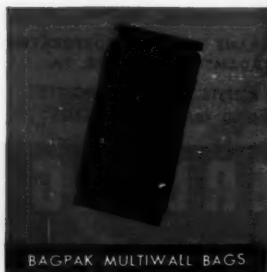
"I believe in being honest and telling you
Exactly What I Think
About This Bag Closer"



For full details,
write today for booklet 280L

"I bought a Model ET Bagpaker® — the one that applies the 'Cushion Stitch' over a dry tape. It makes a neat, strong, sift-free closure. The machine is of welded steel construction throughout — well built — I don't think it will ever wear out. It takes care of up to 15 bags per minute, and only one man is needed to operate it.

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Problems . . . 90

What's New in Packaging and Shipping Equipment?

The hand stamp stencil duplicator is said to be an economical and practical means of marking and addressing tags and labels. For fast accurate copies in a matter of minutes, all you have to do is type, write, trace or draw on a stencil. Affix it to the rocker type duplicator, and print as many as 1000 copies with the one stencil on only one inking. The manufacturer, Multistamp Co., reports that the duplicator stamps clear, distinct copies on any flat or cylindrical porous surface. Sizes range from the small No. 1 for reproducing signatures, addresses, etc., to the large No. 7 for reproducing bulletins, office forms, or anything up to letter size.



Multistamp Co.

Circle No. 195 on Reader Service Card for more information

The Young stitcher is built for performance, not for price, reports the manufacturer, Diagraph-Bradley Industries, Inc. Requiring only 30 in. by 20 in. floor space, it can be used in aisles or between stacks or tiers. Operation is through a foot switch and solenoid

unit for greater speed and less worker fatigue.

Diagraph-Bradley Industries, Inc.

Circle No. 196 on Reader Service Card for more information

Angier Corporation reports that only two strips of its Snake Tape are needed to seal a carton. Tumble tests, drop tests, and incline impact tests are all reported to have had little effect on packages sealed in this manner. The tape is made of a double layer of kraft paper which is reinforced. Between the layers is an asphalt bond which makes it waterproof. Animal glue is used for best adhesion, according to the manufacturer. The tape may be dispensed from any standard dispensing machine which has a cut-off blade. It is available in six widths from 1½ in. to 6 in.

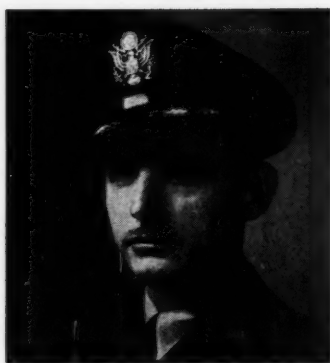


Angier Corporation

Circle No. 197 on Reader Service Card for more information

Free Literature Available on Packaging And
Shipping Equipment Will Be Found On Page 98

Here Are Some Answers to Those Important Questions That Come Up When You Are Packaging for Military Procurement



By Col. John A. Way
Chief, Munitions Board Packaging Division

The Munitions Board Packaging Division is responsible for a packaging program for the Department of Defense. This function is carried out by establishing policies and formulating standard methods and procedures common to the Military Departments. Our objective is to prevent the loss or damage of items of supply and equipment during shipment, storage and handling by providing adequate preservation, packaging, packing and marking.

Over 80% of our items are packaged for final delivery by industry at the time they are procured. It is quite evident that we must depend very heavily on the ingenuity and practices of industry for an adequate package. The military buys an estimated 5,300,000 different items which may be grouped into 50,000 categories. We use 18,000 specifications, several of which are for the same or similar items. That leaves the majority of items to be purchased "off the shelf" or on performance specifications which contain little or no detailed instructions. Many of our specifications only state "according to the best acceptable commercial practices" for the packaging instructions. Our experience

has shown that this type of package is not always adequate in the military distribution system.

"We Maintain Laboratories . . ."

Several of the larger suppliers of military equipment have invested in, or have at their disposal, very fine well-equipped and well-staffed laboratories. They devote capital to research and development of materials and methods of preservation and packaging. This is a necessary and profitable operation. We have benefited greatly by the development of better materials and methods for packaging.

The Military Departments maintain laboratories where extensive research is carried out in development of purely military items and to further test commercial items to determine changes or improvements needed to make them adaptable to military use. The military also uses the facilities of laboratories at the Bureau of Standards-Forest Products Laboratories and does extensive laboratory work in other laboratories by contract. These laboratories are not operated to take the place of manufacturers' laboratories, but to augment them.

At these various laboratories we test the products of various suppliers to determine their acceptability and place them—when necessary requirements are met—on a Qualified Products List. A certificate is issued to the supplier which says that his product, when equal to the samples submitted for test, will be acceptable. Since a great many suppliers are second, third or fourth tier sub-contractors, it enables the prime contractor to assemble parts, all of which meet our requirements. For example, in supplying an item requiring a Method II pack, the contractor buys the laminated foil from a qualified producer. This foil may be constructed of film from a qualified producer, etc. The container may also be furnished by a qualified producer. New products may be tested for qualification by sending them to the military agency which has use for the item or to the custodian of the specification under which the item is to be furnished. This is in

(Turn to page 94)



need help on steel strapping methods?

IT'S no coincidence that Donald Dougherty, Brainard Strapping System representative in Philadelphia, is showing this customer the proper use of a heavy-duty strapping tool.

Brainard's catalog lists over 1,000 items of steel strapping, tools, and accessories. It's the job of Don and his fellow Brainard representatives to see that the right equipment is applied to your operations.

And if you have an extra-tough problem, your Brainard man will bring factory engineers into your plant—pronto. They'll study your packaging, shipping, or handling methods . . . make recommendations . . . work out the specifications for you.

You'll get this superior service from Brainard representatives located throughout the U. S.; in Canada, P. J. McArthur Co., Toronto.

Write for NEW CATALOG!

**COMPLETE STRAPPING SERVICE • LIGHT AND HEAVY
DUTY STRAPPING • TOOLS AND ACCESSORIES**

Circle No. 68 on Reader Service Card for more information

Brainard

SHARONSTEEL

STEEL COMPANY

**BRAINARD STEEL COMPANY, Dept. K-1
Griswold Street
Warren, Ohio**

Please send new catalog listing specifications of strapping, tools, and accessories.

Your Name _____

Company _____

Address _____

City _____ State _____



PALLET DOLLY is easily moved from the point of destacking to the refrigerator car doorway. Rollers on the dolly's carrying surface are at right angles to the bottom rollers so that while one set is moving, the other set is locked. Dolly is pushed to doorway and lined up with . . .

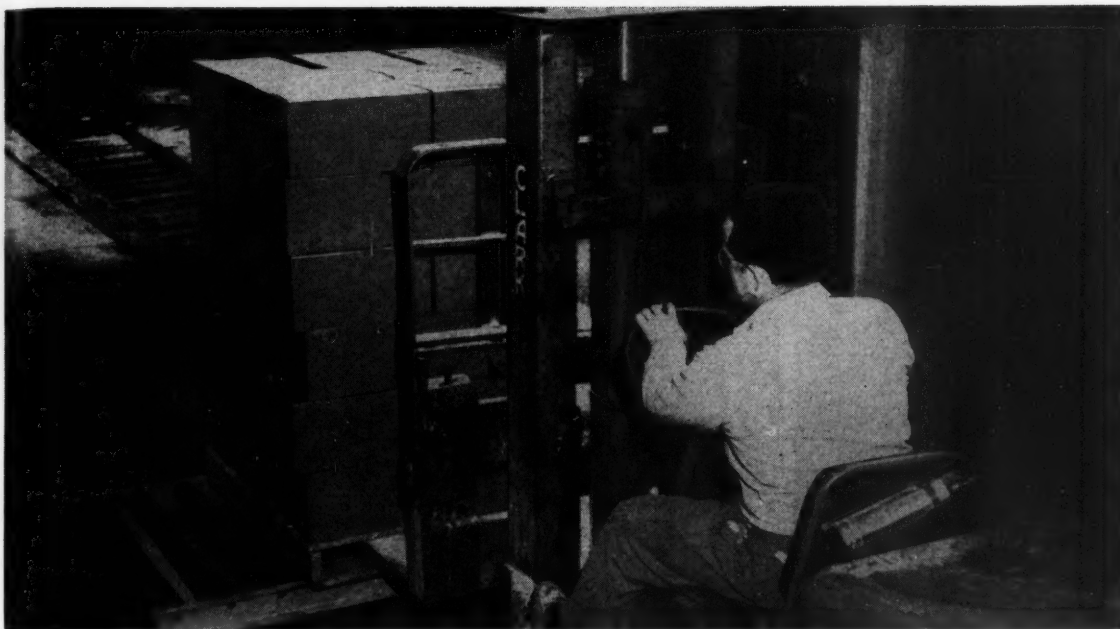
Pallet Dollies Add Speed and



FOR LOADING AND UNLOADING HIGHWAY TRUCKS and box cars, a similar dolly is used (this one has no top rollers). Because of the equal dock and carrier heights, fork trucks can spot the load.



CONSTRUCTION OF PALLET DOLLY: a metal frame with eight rollers on the bottom designed to ride over wooden racks in the bottom of all refrigerator cars; 10 rollers on top speeds handling.



ROLLER CONVEYOR SECTION which extends from the dock into the car opening. Small horses are placed under the conveyor to equalize the difference in levels of the dock and the car. Pallet load is pushed off the dolly onto the conveyor, hence to a point where a fork truck picks it off.

Flexibility to Receiving, Shipping

**J. B. Ruys, Manager
Crooks Terminal Warehouse, Chicago**

Two serious problems, common to many firms, were troubling Crooks Terminal Warehouse, Chicago, recently. They were:

1. Getting pallet loads in and out of refrigerator box cars and highway trucks.
2. Moving goods on pallets within these carriers to and from the doorways.

The most pressing of all the aspects of both these problems was the unloading of refrigerator cars—in which a considerable portion of the incoming goods arrive. Complicating factors were: (a) the doorways of these cars are normally about 4' wide, much narrower than standard box cars; (b) the level of the cars is from 15" to 20" higher than Crooks' docks (box cars and trucks are the same height); (c) the docks extend only 10' from the side of the building restricting fork truck maneuverability; (d) combined weight of the load and the fork trucks exceeds the load refrigerator racks can carry.

For maximum stacking of the heavy loads inside the warehouse 40" x 48" pallets are used. This size trucks make it impossible to enter the refrigerator cars directly; likewise, the difference in height between the dock and the refrigerator car makes the use of dock plates impractical.

The Solution Was Inexpensive

As so many plants have found, the solution to these difficult problems did not involve elaborate or expensive equipment. The system is simple, yet does the job thoroughly and effectively. Here are the details.

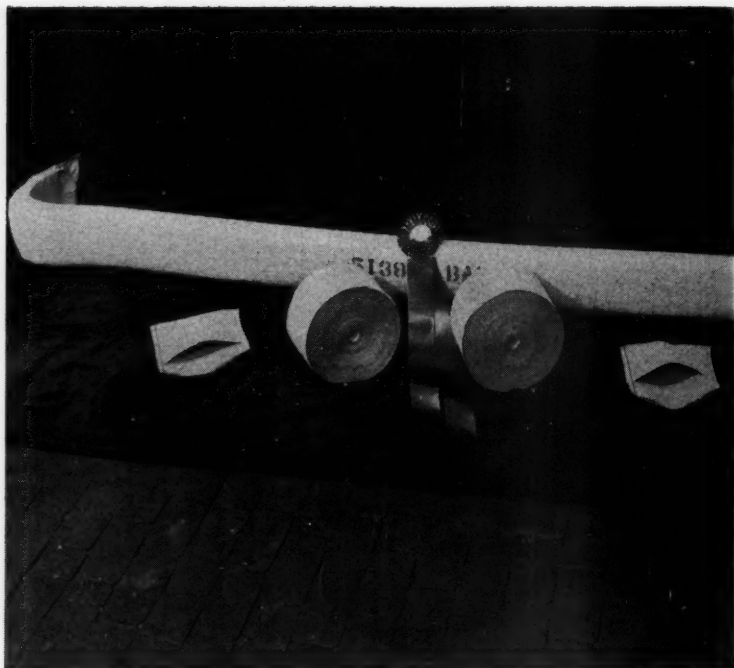
For movement of loads inside the carriers, pallet dollies are now used. These consist of a metal frame with 10 rollers on the top which act as the carrying surface and eight rollers on the bottom which move the dolly along. Top and bottom rollers run in opposite directions so that when force is exerted on the load when pushing it off the dolly, the bottom rollers are at right angles and do not move.

The reverse is true when pushing the load along on the dolly. The bottom eight rollers are so spaced

(Turn to page 92)



W. E. CHRISTOPHERSON, Douglas Aircraft Corp., was the winner of the Irving J. Stoller award for the best interior packing. The package was for a C-47 Fire Prevention Kit.



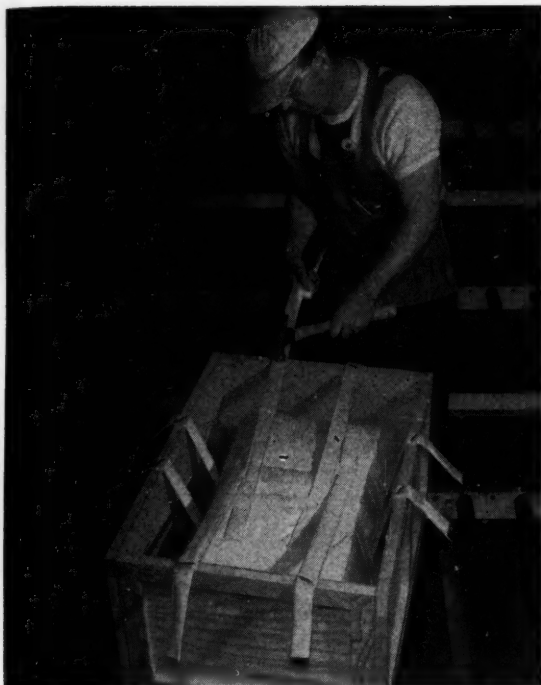
WRAPPING ON THIS AUTOMOBILE BUMPER won first prize in the General Group for W. M. Ward of Pontiac Motor Division, General Motors Corp. The material used is a combination kraft and asphalt wrapping paper. Two boots of the same material, shown separately, cover each end of bumper.



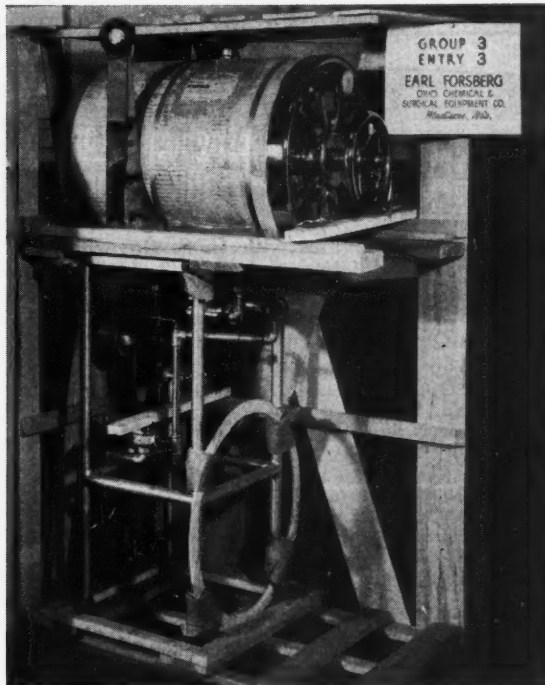
G. C. CUNNINGHAM, North American Aviation, Inc., won the Harold Jackson award for the best method of cushioning against shock. This Method II package is for a T-6 Radio Compass.



IN THE NAILED WOOD PRODUCTS GROUP, the first prize went to Herbert H. Lemmerman, Airco Equipment Mfg. Division of Air Reduction Co., Inc. The load is anchored in the box by various sizes and shapes of blocks which easily lift out of slots formed by battens nailed to sides. Blocks are held in place by the cover.



A LAYER OF CREPED CELLULOSE WADDING, a foil barrier and a desiccant protects this T-6 Radio Compass. The load floats within the box; cloth straps slung beneath the load prevent contact with bottom or sides, other straps float load from top.



CRATING TIME WAS CUT TWO HOURS with this wirebound crate designed by Earl Forsberg, Ohio Chemical & Surgical Equipment Co. This Dressing Sterilizer, has a hard-to-handle contour, is held in the container by horizontal members, blocking.

Prize Winning Solutions

... to toughest packaging problems

Here are some of the prize winners at the recent Society of Industrial Packaging & Material Handling Engineers' Exposition. The complete list of winners was published on page 96 of the November issue of FLOW.

The products shown on these pages represent a rather wide variety. From an automobile bumper, whose critical surface has to be protected, to a radio compass which can not be subjected to any appreciable shock, containers and interior packaging has been designed to see that the loads get to their destination safely.

In some instances, only an outer wrap is necessary to protect the load—particularly when only the surface is in danger. For many of the other products, highly designed interior cushioning had to be engi-

neered into the shipping container.

The exhibits shown here are by no means exhaustive of the types of products entered in the contest. We have picked out only a few of the winners to give you an idea of different types of loads, and their specific packaging problems.

As you will note, certain products can be protected by merely keeping it away from the sides of the containers; others must have the protection immediately around the product. Still other loads are held rigidly in place with bracing and blocking forming a part of the container.

If you want detailed information about any of the package designs, the user plants will be happy to send it to you. Let us know.

**Making a quality product
is YOUR business...**

**Packaging it properly
is OUR business!**

THAT IS WHY . . .

so many companies with U. S. Government contracts requiring method 1A-3, 1A-8, 1A-9, 11a, 11b, or 11c type packaging in flexible moisture-vapor proof barrier material, use AMSCO packaging equipment.

AMSCO equipment is specifically designed to properly fabricate, handle and seal barrier materials. During World War II, AMSCO pioneered in the development of dependable, diversified barrier packaging equipment.

Avoid the danger of improper packaging and great loss of money by rejects. SEND FOR YOUR COPY of AMSCO BOOK "BARRIER TYPE" Packaging for U. S. Government orders. Available at no charge. Write Dept. F

IMPORTANT

Many Government contracts specify packaging in Polyethylene, Cellophane or Pliofilm. AMSCO has equipment for fabricating, handling and sealing these materials.



AMSCO

PACKAGING MACHINERY, INC.

31-31 48th Avenue, Long Island City 1, N. Y.

Specialists in diversified Packaging Equipment

Can we help you with defense orders?

**U-S-S GERRARD
ROUND STEEL STRAPPING
complies with packaging specifications
JAN-P-106A, JAN-P-107 and JAN-P-108**

● Take advantage of Gerrard's years of experience in packaging when you face the problem of packing defense orders. Gerrard Round Steel Strapping complies fully with the joint Army-Navy specifications JAN-P-106A, JAN-P-107 and JAN-P-108 for overseas packing.

A Gerrard engineer can help you with your packaging problems. He can assist you to plan boxes and cartons that conform to specifications, and at the same time help you to make the best use of the steel strapping available for packaging. Where practicable, our engineer will demonstrate the advantages of using Gerrard Steel Strapping for bundling, palletizing, or securing packages with the Diagonal Tie.

Orders for defense requirements receive preference in delivery according to current regulations. Strapping available for non-defense orders is being equitably distributed among our customers. Phone, write or wire for further information.

Gerrard Steel Strapping Division
United States Steel Company
2937 West 47th St., Chicago 32, Ill.



UNITED STATES STEEL

Circle No. 70 on Reader Service Card for more information

PALLET DOLLIES . . .

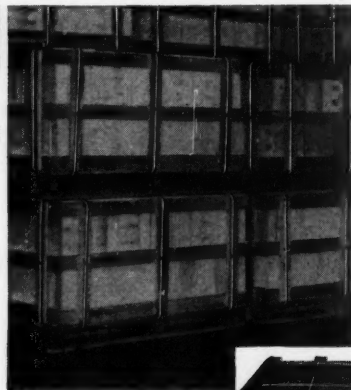
(Continued from page 89)

that they ride over the wooden racks which is found on the floors of most refrigerator cars. The top 10 rollers are spaced close together for easy handling of the loads.

To aid in removing the loads from the incoming carriers, a section of gravity roller conveyor is spotted on the dock and extends inside the car. Small wooden horses are placed beneath the ends of the conveyor to compensate for the difference in car and dock levels. Fork trucks can pick off loads from the sides of this conveyor, eliminating the problem of limited maneuverability on the dock itself.

When a refrigerator car arrives on Crooks' rail spur, a pallet dolly is placed inside the car and the gravity conveyor spotted on the dock. On the dolly is an empty wooden pallet and the pallet and the dolly are moved to the point of unstacking inside the carrier. Pallet loads are thus made up, the loaded dolly pushed to the entrance to the car and lined up with the gravity conveyor, and the load pushed off onto this line. Here, a fork truck picks off the load and stacks it in the warehouse.

To unload a box car or highway truck, a dolly without top rollers is spotted in the carrier, which when loaded, is pushed to the doorway and the pallet load picked off by the fork truck.



Fire bricks, crated and palletized for export, are firmly tied with Gerrard Strapping. Gerrard Steel Straps are galvanized to withstand corrosion.

These shells were easily and securely tied to a pallet with Gerrard Round Steel Strapping.

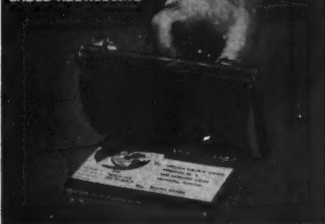


The Diagonal Tie, applied with Gerrard Round Steel Strapping, reinforces all 6 sides of box, carton or crate. Gerrard Strapping grips tightly and evenly, holding contents securely until they reach their destination.

AMERICAN AIRLINES
Lot Labelling AIR FREIGHT
Boxes, Cartons



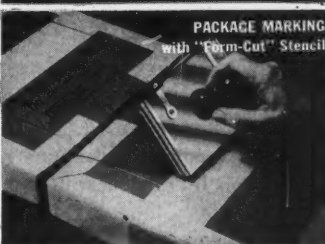
LABEL ADDRESSING



TAG ADDRESSING



PACKAGE MARKING
with "Form-Cut" Stencil



MULTISTAMP—The Original Hand Stamp Stencil Duplicator

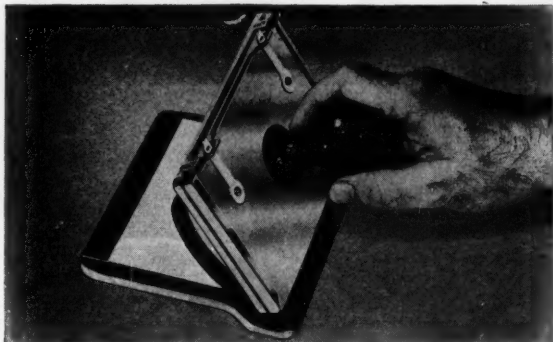
"Solved our marking problem!" say users everywhere

One firm reports, "The **MULTISTAMP*** Duplicator is the best thing we have ever seen for printing postcards." Another, "You licked our shipping tag and label addressing problem." Still another, "The **MULTISTAMP** Duplicator tops anything we've seen for marking boxes, cartons and packages—we're completely satisfied." **MULTISTAMP** is the Original Hand Stamp Stencil Duplicator, and has been giving dependable service for over 30 years to the biggest names in the office and shipping fields. *Portable and non-mechanical*, it is made of non-corrosive metal to last indefinitely... no moving parts to wear or repair... has low-cost replaceable ink pads.

Quick... clean... accurate... easy-to-use... inexpensive the **MULTISTAMP** Duplicator prints 1000 or more clear, sharp copies from one stencil... one inking. "It prints anywhere":

POSTCARDS SHIPPING TAGS LABELS
BOXES CARTONS PACKAGES

Just type, write, trace or draw on low-cost stencil and snap in position, then print... print... print—just like using a rubberstamp. And, with the new **FORM-CUT** **MULTISTAMP** Stencils (now widely used to speed up freight marking) you print forms and "fill-ins" in one operation.



PRINTS and ILLUSTRATES POSTCARDS. The **MULTISTAMP** Duplicator is also ideal for printing office and shipping forms, bulletins... even letters and menus. It's so handy it is often used as an emergency "rubberstamp"... takes but a minute... costs about 2c. Where hairline registration is required (printing "fill-ins" on printed forms—or printing the full area of postcards) printing guides are available.



There is a size for every duplicating need. 8 complete outfits, \$9.50 to \$99.50, f.o.b. factory. Write for descriptive literature or see your Office or Shipping Room Supply Dealer. The popular "No. 3" outfit, pictured above, is of suitable size for printing postcards and large shipping tags; and includes the duplicator, 12 stencils, ink, ink brush, writing board, stylus pen, type cleaner, correction varnish and complete illustrated instructions in a handy durable case... \$19.50.

*REGISTERED TRADE MARK †TRADE MARK © 1951.

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PACKAGING FOR THE MILITARY . . .

(Continued from page 86)

effect a qualified manufacturers list since each manufacturer, even though he be a licensee for an identical item, must submit an item of his own manufacture for these tests.

It is our aim to take advantage of the research and developments by industry and to write specifications to include performance requirements. As you can readily understand some degree of uniformity must be maintained in order to arrive at some criteria for inspection. This may be accomplished by making certain inspection tests which all items supplied under the specification will meet.

Another function of these laboratories is to develop substitute materials where a critical shortage may result in our being unable to obtain enough to meet requirements. Specifications will state, in instances, substitute materials. In World War II lists were published giving possible substitutions and instances where they could be used. As you know we are also making provisions to overcome some of those shortage problems by the stockpiling program of the Munitions Board.

Some of you who have had packaging and materials handling experience for overseas shipment and the problems involved will have a more complete appreciation of the military requirements and

the condition justifying those requirements which I will attempt to point out.

"Packages Get Rough Treatment . . ."

The hugeness of the problem results in our first departure from commercial practices. Space itself becomes a factor. Supplies are jammed up requiring piling and stacking conditions that would not be approved by most engineers. Inside storage of supplies in neat rows and the use of the latest materials handling equipment must be forgotten.

Inexperienced and untrained handlers take charge and our supplies are on the way towards possible destruction.

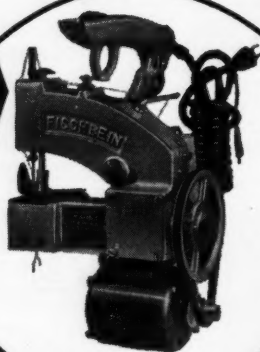
Loading nets and slings test the engineering design of the box. Then it is stacked in the hold of a ship to shift and be crushed during its voyage. The unloading process takes place and the box is on its way to a supply dump. A supply dump is generally appropriately named. Some open field that with heavy equipment traffic and a little rain becomes a quagmire. There the boxes are generally piled as high as physically possible with the equipment available.

The box is now ready for its second test—its endurance against the elements—rain, sun, humidity, freezing weather, mud, mildew, rot, rust and other factors. Each of those boxes becomes its own warehouse for the items inside. Each must be designed to give the sort of protection that these items must have under such conditions.

FOR QUICK, EFFICIENT CLOSING OF BALES AND LARGE CONTAINERS!

FISCHBEIN *Portable* SEWING MACHINE

- COMPLETELY PORTABLE...WEIGHS ONLY 10½ POUNDS
- HANDLES COTTON, BURLAP, PAPER AND SPECIALLY PROCESSED MATERIALS OF SIMILAR NATURE
- SEWS ABOUT 40 FEET PER MINUTE
- REQUIRES NO INSTALLATION, SUPPORTS OR PLANT SPACE. MERELY HOLD IN HAND TO USE



MODEL CH

Designed specifically to close bales, large containers and other bulky and hard-to-handle packages, the FISCHBEIN *Portable* SEWING MACHINE replaces hand-sewing or other time-consuming and costly closing methods. It operates from any 110 volt AC or DC line, any cycle. A 220 volt motor can be furnished at no extra charge.

For Information, Write:

DAVE FISCHBEIN COMPANY *Industrial Sewing Machinery*

DEPT. 4B • 38 GLENWOOD AVENUE • MINNEAPOLIS 3, MINNESOTA, U.S.A.



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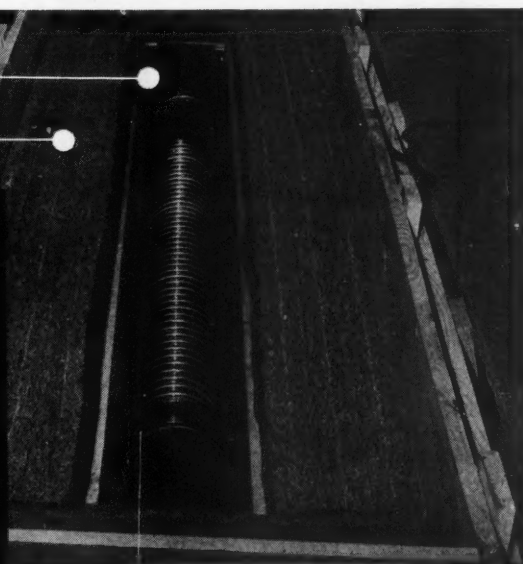
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How to **PACK** a delicate product for **SHIPMENT ANYWHERE**

- **SPONGEX** cellular rubber
- **TEXLITE®** rubberized hair



**This fragile high-voltage tube
is cushion packaged
for safe arrival**

Photographs courtesy of High
Voltage Engineering Corporation.

The last nail in place and this high-voltage tube is ready for shipment anywhere. On arrival, it will do the job it was built to do. It's packaged to take the bangs.

After analyzing its needs, this fragile tube was packed in two outstanding cushioning materials—Spongex cellular rubber, and Texlite rubberized hair.

If breakage in transit is eating into profits, consult with our Packaging Division. They are equipped to analyze and prescribe the requirements of your product for safe arrival anywhere—whether shipped by land, sea or air.

For better package
cushioning use



Spongex products available for protective packaging

- **TEXLITE** rubberized hair and/or wool
- **SPONGEX** cellular rubber
- **TEXFOAM** latex foam rubber

THE SPONGE RUBBER PRODUCTS COMPANY

584 DERBY PLACE, SHELTON, CONNECTICUT

Circle No. 173 on Reader Service Card for more information

*in these days of high costs
it pays to keep*

**BOTH
FEET**

ON THE GROUND



BECAUSE—it eliminates the **FA-TIGUE**, caused by lifting your leg (average weight 23 lbs.) every time you stitch the bottom of a carton.

only **YOUNG WIRE STITCHING MACHINES** have all these combined features.

- Electrically actuated post and trip. Operated by light pressure of the toe, with both feet firmly on the floor.
- Sealed-in ball bearings.
- Automatic brake.
- Power control unit.
- Simple head construction



DIAGRAPH-BRADLEY INDUSTRIES, INC.

Young Wire Stitcher Division
New York, N. Y., Herrin, Ill., Philadelphia, Pa.
Distributors and Service in Principal Cities.

Eventually that box is snaked out of the pile—generally with a cable around it—the other end of which is around a winch on a 6 x 6—and is bounced off to a distribution point where it is issued to the organization which has requisitioned and has need for it.

Then comes the third test, and the most important. Is the item inside ready and fit for its intended use? If it isn't, can we write off the loss as the cost price of that item? No, we can't. That item by this time has become valuable indeed. It represents lost vital materials, handling, space—and now, it represents the loss of a tank, or a truck or a gun that may mean loss of lives. These things come high if we try to translate them into dollar value.

The only insurance we have against loss or damage to an item is in the package we put it in and the training of materials handling people to give it some consideration during its handling. If an item is consistently damaged it indicates that our insurance policy is not adequate. We must "beef-up" our protection. The laboratory test is an excellent guide, yet it cannot replace actual facts proven by experience. We are constantly modifying specifications to include the changes found necessary from loss and damage reports and experiences with material in storage or during shipment. I might admit here, however, that a majority of our amendments and revisions to specifications are instigated by the manufacturers and

(Turn to page 122)



**In OUR Plant
we mark parts
in COLORS!**

KING SIZE
8 3/4 in.

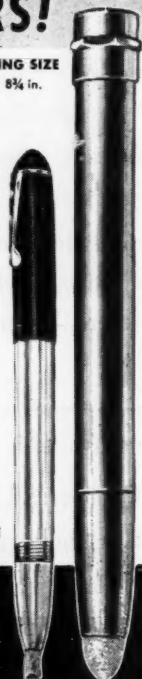
Yes, in *colors* for easier assembling, stocking, identification, etc. And industry is finding the Flo-master Felt-Tip Marker ideal for all types of marking. Its felt tip glides over any surface—metal, plastic, wood, etc. with broad, bold lines or fine lines. Flo-master semi-opaque inks—waterproof, non-smudging, fast-drying—come in a wide range of colors.

For light colored surfaces, use Transparent Inks with "POCKET SIZE" Flo-master. For dark, hard-to-mark surfaces, use Semi-opaque Inks with the "KING SIZE" Flo-master.

Ask your supplier or write to Cushman & Denison Mfg. Co., 153 W. 23rd St., N.Y. 11

POCKET SIZE
6 1/4 in.

Flo-master
FELT-TIP MARKER



Cut **STITCHING and TYING COST THE INLAND WAY**

Engineered for your special needs, Inland Speed Stitchers, Tying Machines and Quality Wire have long been the answer to Stepped Up Production and Reduced Packaging Cost. There are many variations of both machines and wire to select from.

INLAND SPEED-STITCHERS

MANUAL & AUTOMATIC
All types:—Seam, Bottom, Metal, Straight Arm, Sword or Combination Models. 150 to 400 staples per minute. Reversible parts for minimum replacement and upkeep.

INLAND WIRE TYING MACHINES

Many models to choose from for light to heavy duty tying. Sturdy, fool-proof and compact. Put light package tying on a production-like basis.

INLAND SPEED-FLO STITCHING WIRE

Highest quality wire processed the INLAND way for uniform flow from spool to stitcher head. Copper or galvanized comes in 50, 25, 10 or 5 lb. coils.

INLAND SPEED-FLO TYING WIRE

Shipped in convenient dispenser-type package. No kinks or twist as wire feeds from carton to machine. For floor, table or wall mounting—it speeds operations.

Send your stitching or wire tying problems to Inland today, without obligation.

INLAND WIRE PRODUCTS CO.

3960 S. Lowe Ave.

Chicago 9, Ill.

READERS SERVICE CARD

**NEW IDEAS...NEW FACTS...NEW CATALOGUES
NEW PRODUCT INFORMATION**

FIRST CLASS
PERMIT NO. 8066
SEC. 34.9 P. L. & R.
CLEVELAND, OHIO

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Cleveland 13, Ohio



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**NEW IDEAS...NEW FACTS...NEW CATALOGUES
NEW PRODUCT INFORMATION**

**NEW IDEAS...NEW FACTS...NEW CATALOGUES
NEW PRODUCT INFORMATION**

Please send me additional information and literature on items circled below.

Please send me additional information and literature on items circled below.

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2 15 28 41 54 67 80 93 106 119 132 145 158 171 184 197 210 223 236 249
3 16 29 42 55 68 81 94 107 120 133 146 159 172 185 198 211 224 237 250
4 17 30 43 56 69 82 95 108 121 134 147 160 173 186 199 212 225 238 251
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6 19 32 45 58 71 84 97 110 123 136 149 162 175 188 201 214 227 240 253
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Name..... Position.....

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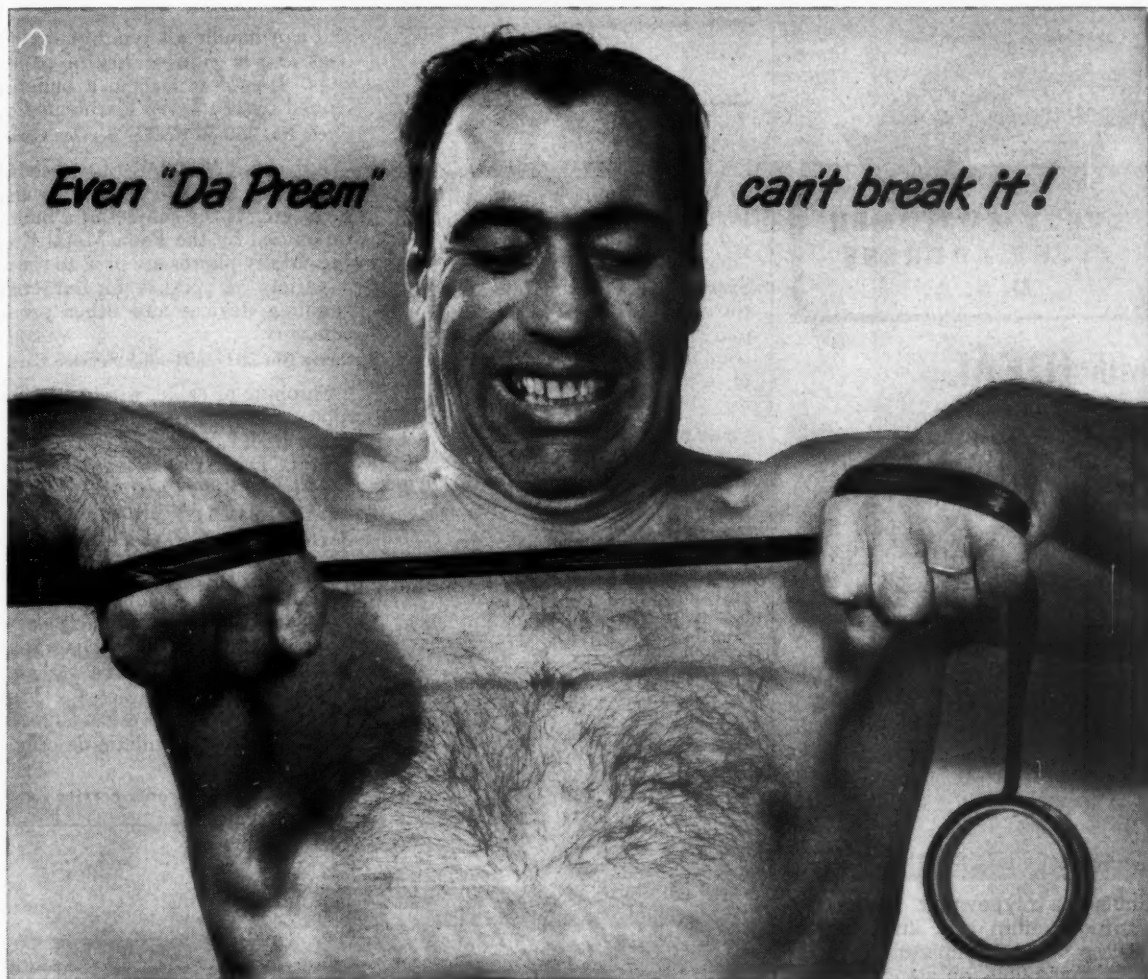
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World's strongest tape?

Powerful Primo Carnera proves the startling strength of "SCOTCH" Brand Filament Tape No. 880—the stick-at-a-touch, pressure-sensitive tape that

holds in place the last lap of huge coils of strip steel at Crown Cork & Seal Co., Baltimore. And this tape can save you real money on your packaging too!



OTHER STRAPPING MATERIALS scratched steel, caused waste, required special application equipment at Crown Cork & Seal Co. Now short strips of "SCOTCH" Brand Filament Tape do a better job in less time. Order from your distributor today!

Quick Facts about "SCOTCH" Brand Filament Tape

- **SHOCK-RESISTANT**—absorbs jolts and jars again and again.
- **SAFE**—no sharp edges to injure workmen.
- **ECONOMICAL**—short strips handle big jobs.
- **TOUGH**—5 times the tensile strength, 50 times the tear-resistance of most industrial tapes.

The term "SCOTCH" and the plaid design are registered trade marks for the more than 100 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "SCOTCH" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheet-ing, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: Minn. Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y. In Canada: Minnesota Mining & Mfg. of Canada, Ltd., London, Canada.

Circle No. 77 on Reader Service Card for more information

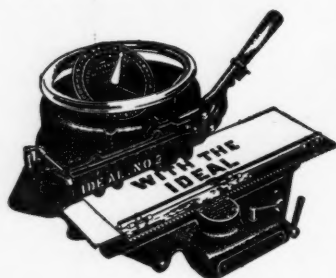


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WORDS WELL...**

**EVERY CUSTOMER
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with **IDEAL.**

**Stencil Marking
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STENCIL MACHINE

Shifts like a typewriter. Automatic carriage return and line spacer. Visible cutting. Minimum Margin Grip saves 25% on stencil board. Made in three popular letter sizes.



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FOUNTAIN
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BRUSH**

STOPS FATIGUE

Natural grip for easy wrist-action. Push-button control. One-piece construction, leakproof.

IDEAL.

STENCIL INK

Complete line of black and colored fountain brush and metal marking inks. Free flowing, quick drying.

FREE "IDEAL SHIPPING GUIDE." Handy, money-saving shipping room hints.

IDEAL STENCIL MACHINE CO.
104 Iowa Ave. Belleville, Ill.
Circle No. 78 on Reader Service Card

WHAT'S NEW . . .

(Continued from page 85)

"... So They Took The 5 Million and Sailed for Arabia." Want to know something about that intriguing headline? Then ask to be put on the mailing list for the Signode Seal of the Signode Steel Strapping Co. The lead article in the current issue tells how this company's steel strapping was used in shipping to Arabia the largest load of packaged lumber ever loaded on one ship.

Circle No. 198 on Reader Service Card

The Polyken Tape Use Manual cites 1500 applications for industrial tape. This handbook consists of almost 80 pages of tabulations. Uses are broken down into group and industry classifications. Published by the Polyken Industrial Tape Dept. of Bauer & Black.

Circle No. 199 on Reader Service Card

You can carry the Fischbein Portable Bag Closer to the bags, to save time and reduce handling. This machine weighs only 10½ lb.

and can handle all types of textile bags and a wide variety of paper bags. It is described in a bulletin offered by the Dave Fischbein Co. Circle No. 200 on Reader Service Card

Expanded Metal Meshes, used a great deal in small parts carriers, carts, etc., is the subject of a bulletin offered by the Penn Metal Co., Inc. Many photos are used to show a variety of meshes for material handling devices and other products.

Circle No. 201 on Reader Service Card

Shipping of cable, wire, and wire rope on reels can be made much easier with the use of Peyton Spur Cleats. Data sheets published by the Peyton Spur Cleat Co. describe the cleats and tell about their use.

Circle No. 202 on Reader Service Card

If you are looking for a wire stitching machine, don't fail to investigate the revolutionary new Young Stitchers, says Diagraph-Bradley Industries. Here are machines designed to increase production with less work at lower cost. A four-page bulletin describes all models.

Circle No. 203 on Reader Service Card

Can You Use These?



PACKING SPACERS

- ★ CYLINDERS
- ★ BLOCKS
- ★ ROLLS (hard or soft)

Core Diameters:
1½, 2¼, 3, 4, 5 inches
Outside Diameters:
Up to 8 inches
Length of Rolls and Blocks:
From 1 to 48 inches

★ Used for the protection of various fragile and/or heavy articles in corrugated or wooden boxes . . .

Write for samples and prices.



CENTRAL FIBRE PRODUCTS CO., INC.
901 SOUTH FRONT STREET • QUINCY 2, ILLINOIS

Circle No. 79 on Reader Service Card for more information

JANUARY, 1952 • FLOW

textile
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NOW

GRINNELL

moves valves

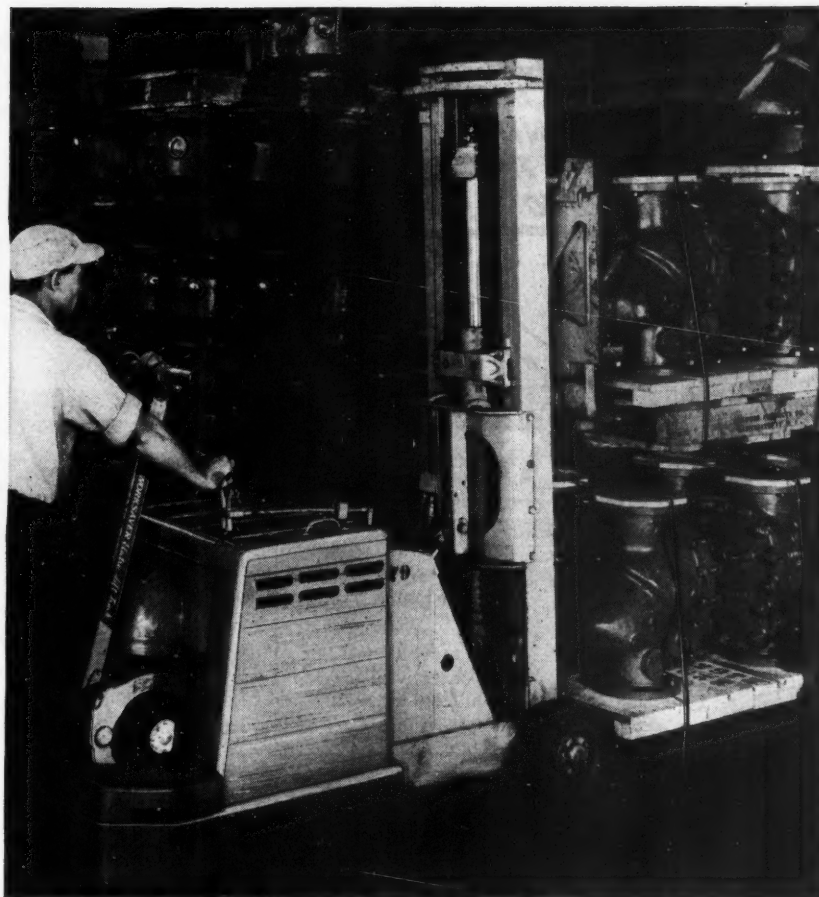
four times

faster with

STANLEY

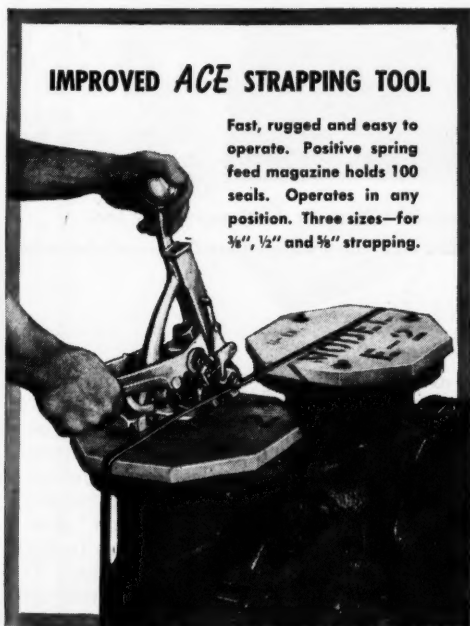
STEEL

STRAPPING



IMPROVED ACE STRAPPING TOOL

Fast, rugged and easy to operate. Positive spring feed magazine holds 100 seals. Operates in any position. Three sizes—for $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{5}{8}$ " strapping.



At its Cranston, R. I. plant, Grinnell Co., Inc. found that by strapping four valves to a skid with Stanley Steel Strapping, truckers could handle four valves in the same time that it formerly took to handle one.

Trucks that previously carried valves one-at-a-time now carried four valves — *three riding free*. And in addition, Grinnell got a better, easier to handle shipping unit. Valves strapped to a skid could be stacked higher — saving critical storage space.

And this is just another typical example of what Stanley Steel Strapping and modern shipping methods can do for hard-to-handle products. See how it can save for you. Write for full information to: The Stanley Works, Steel Strapping Division, 202 Lake Street, New Britain, Connecticut. Offices in principal cities.

STANLEY

Reg. U. S. Pat. Off.

STEEL STRAPPING AND CAR BANDING ACCESSORIES

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

Circle No. 80 on Reader Service Card for more information

FLOW • JANUARY, 1952

99

ARROW GUN TACKER **FASTENS TAGS, LABELS,** **PROTECTIVE LININGS...** **MORE SECURE, FASTER** **WITH LESS EFFORT !!!**

TAGGING CRATES

Tags and labels are attached in a jiffy.



LINING BOXES

Handy for fastening protective linings in close corners.



LINING BOX CARS

One-hand operation permits freedom of other hand to hold material in place.



MORE AND MORE... production men with a view towards solving these fastening problems in the cheapest, fastest and most efficient way, are finding that the Arrow Gun Tacker meets their requirements better than any other method.

T-32 GUN TACKER
PRICE \$9.50

Slightly Higher
 In The West and Canada



Arrow Gun Tackers are self-feeding and load 150 staples of 3 different sizes: 3/16", 4/16", or 5/16" lengths. The Tacker operates with trigger-like action on the principle of double leverage. Easy action permits user to work at desired rapidity.

"DON'T JUST FASTEN IT — ARROW-FASTEN IT"

For further information write to:

ARROW FASTENER CO., INC.
 BROOKLYN 12 NEW YORK

Circle No. 81 on Reader Service Card for more information

Like a thief in the night rust attacks most metal parts stored away overnight or over week-ends, but it stays away from those put to bed under a blanket of Nox-Rust Vapor Wrapper. The wrapper is a kraft



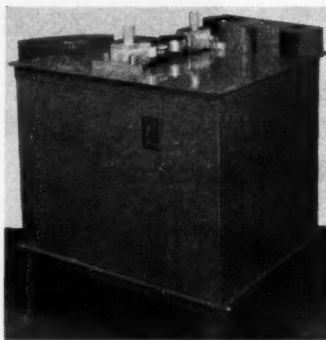
paper impregnated with Callex, a chemical which volatilizes if moisture is present in the air in the package, completely surrounds the metal and renders the moisture non-corrosive. The manufacturer reports that the most effective way to use the wrapper is to line a box or bin as shown, and to lay another sheet over the top. The paper is also used to prevent

rust during shipping of metal parts.

Nox-Rust Chemical Corp.

Circle No. 204 on Reader Service Card for more information

You can print on brake linings or similar segmented curved pieces with the brake lining marking machine made by The Industrial Marking Equipment Co., Inc. It will print any segmented curved pieces of printable material with minimum radius of four in., a thickness of 1/8 in. to 1/2 in., a width of from one in. to eight in., and a length from four in. up. Modifications are possible.



Industrial Marking Equipment Co., Inc.

Circle No. 252 on Reader Service Card for more information

Paper of all weights up to three-ply index and from 6" x 6" to 28" x 36" sheets can be stripped or solid glued automatically on the new Potdevin conveyor gluer. Sheets are fed automatically and delivered glue side up on an endless belt conveyor. Forced drying equipment can be installed, if required, as well as a suction conveyor for thin sheets. The machine has a variable speed control up to 3,000 sheets per hour and can use any kind of glue. The gluer is five ft. wide by 16 1/2 ft. long. The conveyor belt can be supplied to any length desired.

Potdevin Machine Co.

Circle No. 253 on Reader Service Card for more information

EASY TO READ STENCILS



**SPEED
HANDLING**



THREE SIZE
MACHINES, CUT
 $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1" STENCILS

Marsh Stencil Machines
meet Federal
specifications
GG-M-91



MARSH K-1 BLACK STENCIL INK

No shaking needed.
Blacker marks ...
weatherproof ... fast
drying. Write for
FREE pint sample.



MARSH FOUNTAIN BRUSH

"Push Button" finger-tip
control assures neat, attrac-
tive marking on shipments.



MARSH OIL BOARD

Cuts clean, perfect stencils
that last for 3000 markings.

Does the busy freight handler spot your goods immediately... send them safely, speedily, on their way to your customer?

Or does he slow up your deliveries trying to decipher illegible hand-lettering, poorly typed labels, tags... other inefficient methods of marking?

Only STENCILS give you bold, easy-to-read addresses—the kind recommended by the railroads and trucking lines.

Association of American Railroads says, "STENCILS contribute very materially to prompt and correct deliveries." American Trucking Association says, "A shipment properly stenciled is off to a good start on its journey to destination."

Only the MARSH Stencil Machine gives you the Word Space Button, Hardened Dies and Quick Replaceable Punches, Streamlined Hood, Sealed-In Lubrication and other superior features.

Send your orders to nearest Marsh Dealer. Stocks in all principal cities. Or write for free Handbook.

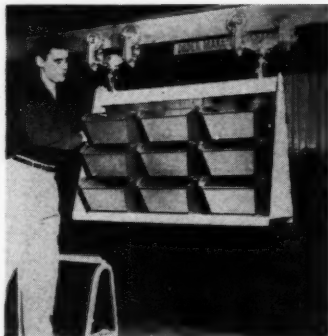


MARSH STENCIL MACHINE CO., 67 MARSH BLDG., BELLEVILLE, ILL., U.S.A.

Circle No. 67 on Reader Service Card for more information

NEW PRODUCTS

A steel plate conveyor tray for transporting NesTiers on overhead monorail systems has been introduced by the Charles William Doepke Mfg. Co. Designed for use in order make-up systems, it can be

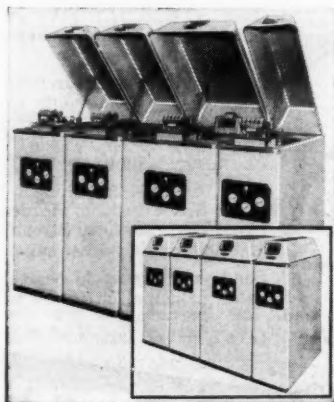


used on either hand operated or motorized monorails. It holds nine tiered NesTiers which are available in two models: one is 17½ in. long, by 9¼ in. wide with an inside depth of 5½ in.; the other is 22⅝ in. long, 12⅛ in. wide with an inside depth of 7¾ in.

Charles William Doepke Mfg. Co.

Circle No. 210 on Reader Service Card for more information

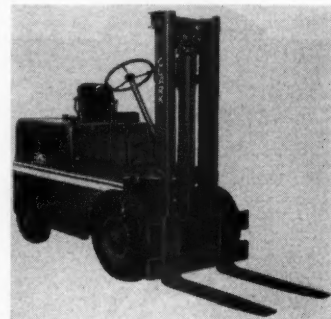
No charts or calculations are used to set a blender developed by Bowser, Inc. Simple controls on each meter permit instantaneous setting of ingredient proportions in increments to meet customers' exacting requirements. Total output is recorded on a master counter and each ingredient is recorded separately on its own meter. Failure of any ingredient supply automatically shuts off the entire system and if the supply to any meter slows down for any reason, all meters synchronize automatically to the same rate of delivery. One of the advantages claimed for this system is elimination of the need for large storage facilities for, and inventories of, blended stocks and double pumping. Liquids can be blended as required and move directly to tank car or containers.



Bowser, Inc.

Circle No. 211 on Reader Service Card for more information

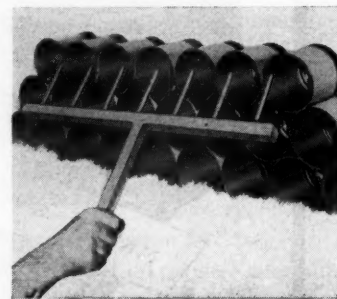
Diesel power for the Yardlift-40 fork-lift is now offered by Clark Equipment Co., Industrial Truck Div. Primary purpose for offering the diesel power was said to be to effect fuel cost savings. The engine, a Model DIX-4D by Hercules, has a bore of 3⅝ in. and a stroke of four in. Displacement is 166 in., giving a brake horsepower of 44 at 1950 rpm. Maximum torque developed is 118 ft. lb. Major specifications remain the same with the new engine as with the standard model. The only operating changes will be minor ones associated with diesel operation.



Clark Equipment Co.

Circle No. 212 on Reader Service Card for more information

A lightweight can fork made of magnesium has been introduced to the canning industry by Magline, Inc. The new unit combines the extreme lightness of magnesium with exceptional strength and serviceability, according to the manufacturer. Tines are non-rusting and individually replaceable. It is expected that the fork will speed up can handling operations, reduce lifting effort and employee fatigue.



Magline, Inc.

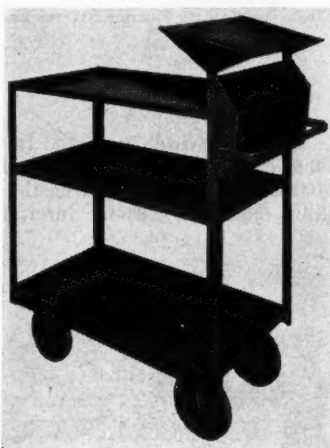
Circle No. 234 on Reader Service Card for more information

AWOG floors, made by Flexrock Co., are designed to resist such common floor disintegrators as acid, water, oil, or grease. The extreme durability is attributed to tight, close-knit composition. Microphotographs reveal practically no voids or pores, and liquids can't penetrate to attack the bonding element.

Flexrock Co.

Circle No. 214 on Reader Service Card for more information

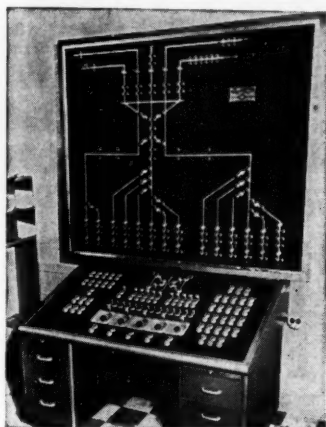
This stock checker's truck designed to handle a variety of items and having a table and stationery rack welded to its frame, is made by Palmer-Shile Co. Of all steel welded construction, it has three steel shelves with a one in. flange to prevent materials from falling. Floor clearance is 9½ in. Overall height to top shelf 42½ in., height between lower and center shelves 20 in., between center and top shelves 12 in. Height to the top of the writing table is 50 in. The truck is equipped with four six in. rubber tired, roller-bearing casters, two swivel ones at the push handle end and two rigid ones at the other end. Weight semi-crated for shipping is approximately 190 lb.



Palmer-Shile Co.

Circle No. 215 on Reader Service Card for more information

The control desk and panel pictured here is the "heart" of an A-F completely coordinated conveying system engineered and manufactured by the Alvey-Ferguson Co., for installation in Tuborg Breweries, Ltd. of Denmark. By means of push buttons and pilot lights, the dispatcher at the control desk will be able to constantly determine operating progress throughout the entire system. He can control the starting and stopping of all or part of the system, route the loads and switch them to specific areas and assure a smooth, even flow of trains



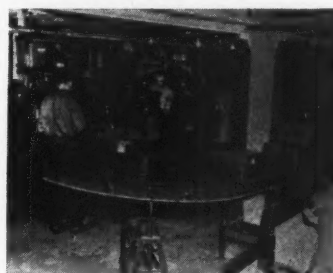
of cases—automatically.

Alvey-Ferguson Co.

Circle No. 216 on Reader Service Card for more information

Only three units, a straight section, a 90-degree curved section, and an adjustable trestle are needed

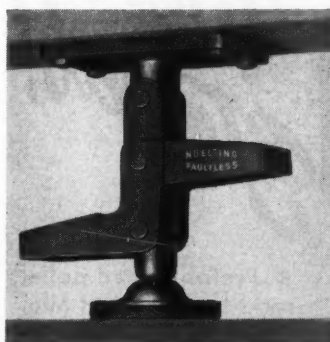
to meet gravity roller requirements in a great many cases. According to Lyon Metal Products, Inc., its new conveyor units are ideal for gravity or hand propulsion of cartons, packages, boxes, crates, pallets, etc. Balanced rollers rotate on full length cold rolled steel shafts fitted with ball bearings. Shafts retain alignment and cross channels prevent the frame from spreading under heavy loads. Rollers are spaced on 4-in. centers and are raised ⅜-in. above the frame.



Lyon Metal Products, Inc.

Circle No. 217 on Reader Service Card for more information

This is the FTL Truck Lock made by Faultless Caster Corp. To lock a truck in position, you simply step on one pedal of the lock. To release, you step on the other pedal. Non-slip treads on both pedals are designed to insure maximum safety of operation. A typical application includes two truck locks with four swivel plate casters. The locks should be located as close to the casters as easy operation will permit. They are available in nine models for use with casters varying in

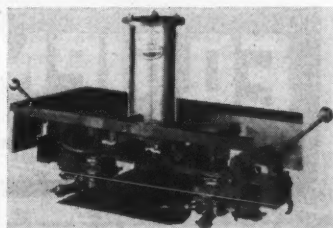


size from four in. to eight in.

Faultless Caster Corp.

Circle No. 218 on Reader Service Card for more information

Conveyors in foundries and other places where an unusual amount of dirt, dust, or spray circulates can be kept in service longer with an automatic conveyor lubricator made by the J. N. Fauver Co., Inc. A self-contained grease lubricator type, it is driven by contact with trolley wheels. As a trolley wheel approaches the lubricator, the hub engages the sleeve of one of the five pumping units. Continued rotation of the lubricator forces the pump-





● Prefabricated pallet racks by Equipment Mfg. Inc. permit stacking to conserve floor space without tying up low level material. They are engineered for strength, safety and flexibility. There's a type to suit your particular needs.

Write for our catalog. It illustrates all types.

**EQUIPMENT
MFG. INC.**

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Detroit 5, Mich.

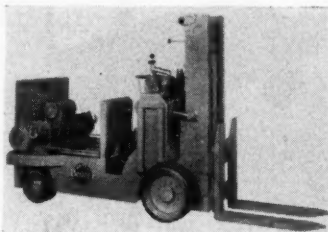
Circle No. 84 on Reader Service Card for more information

ing unit inward, delivering a measured quantity of lubricant to the wheel bearing. The unit operates on conveyor wheels equipped with or without Zerk hydraulic fittings.

J. N. Fauver Co., Inc.

Circle No. 219 on Reader Service Card for more information

A power winch mounted in the battery compartment of Baker JOM series fork trucks (7000, 8000 and 10,000 lb. capacities) turns the trucks into die handling machines without interfering with their hauling



efficiency. All parts of the winch except reels and cables are enclosed in the truck's battery compartment. Cables running from the winch to the die are guided over rollers on the side plates of the truck to prevent friction

between cable and body surface. For die pulling, hooks on the winch cables are attached to the die. Then power is applied to the winch to pull the die onto the forks.

Baker-Raulang Co.

Circle No. 220 on Reader Service Card for more information



BATTERY CHARGING INFORMATION

to help you get more efficient and reliable battery charging at lower cost. Just send in the coupon below

for these Bulletins

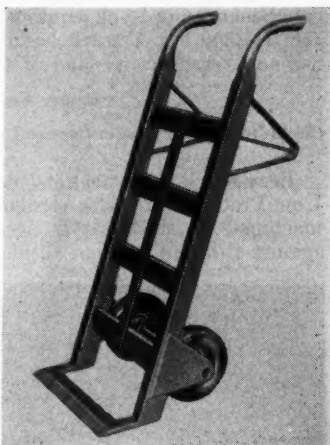


THE ELECTRIC PRODUCTS CO.
1730 CLARKSTONE ROAD • CLEVELAND 12, OHIO

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COMPANY _____
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CITY _____ ZONE _____ STATE _____
X-79

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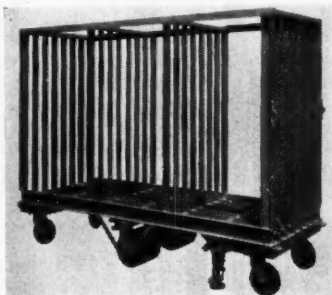
Streamline designing is said to be the overall keynote of the Dok-Master hand truck manufactured by the Dico Co. Rivets, bolts and other outward projections have been concealed or eliminated, and all exposed surfaces have been streamlined to prevent the tearing and smagging of bags, sacks and cartons. It has completely enclosed steel box side shafts, unbreakable formed steel wheel brackets, and a heavy duty, scientifically designed axle assembly with end bolts completely enclosed. Six models with capacities ranging from 1000 to 2000 lb. are available.



Dico Co.

Circle No. 221 on Reader Service Card for more information

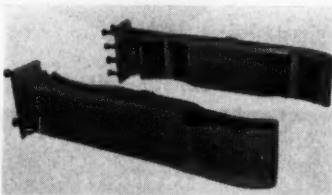
A sheet handling truck designed to operate over wood-block or concrete floors is made by Market Forge Co. The manufacturer reports that this truck can be moved easily and quietly by hand or by a tractor. Floor locks on each side of the truck keep it stationary and in position during loading and unloading. Wide-faced rubber wheels in the center cushion the load, prevent damage and lessen wear and tear. The truck has an over-all width of three ft., a length of eight ft., and a height of six ft. It contains seven compartments each four and 3/8 in. wide by 53 in. high. Capacity is 6000 lb.



Market Forge Co.

Circle No. 222 on Reader Service Card for more information

Two new lift truck attachments for handling drums have been developed by the Hyster Co. They are Model "40" Four-Drum Handling Arms (illustrated), and Model "20" Two-Drum Handling arms. Both types feature specially-designed, steel-backed, re-



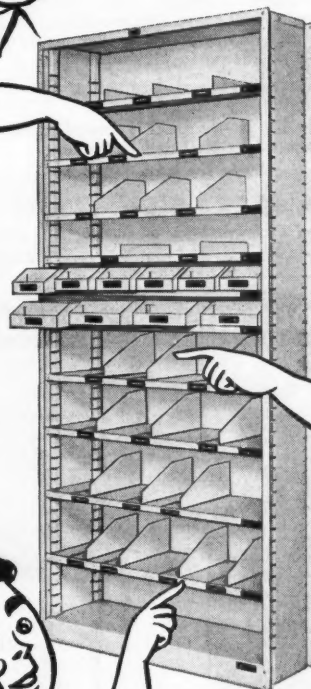
FLOW • JANUARY, 1952

BORROUGHS *Quality* FLEXI-BINS

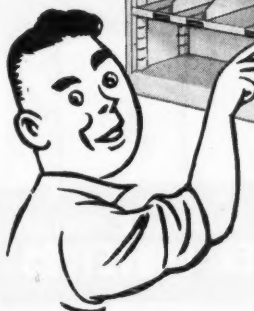
Here's how to save money
in storing small items!



Look! Sliding Shelves!



Look!
Snap-on
dividers!



Look! Adjustable
without bolting!

There's no wasted air space when you use Borroughs Flexi-Bins . . . every inch counts . . . every shelf is easily and quickly adjustable to meet every small item storing need. Start now to save space, time and money, with Borroughs! Send for catalogue.

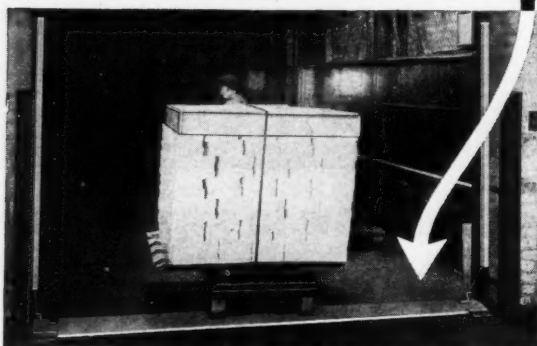
BORROUGHS Mfg. Division
American Metal Products Company
5961 Linsdale • Detroit 4, Michigan

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Circle No. 86 on Reader Service Card for more information

BRIDGE THAT GAP

Leading into your Elevator



The ALEXANDER Elevator Sill

attaches to the building floor landing of each door opening and functions like a drawbridge AUTOMATICALLY with the opening and closing of doors.

DOWN—it provides a smooth, safe trucking surface for trucks to roll on and off elevators. Protects elevators and doors, prevents damage to goods, minimizes accidents to personnel.

RAISED—it forms a guard, protecting the doors against ramming by trucks.

The Alexander Sill is thoroughly tested, fully patented—used by more than 5,000 satisfied customers.

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BRING YOUR CONVEYOR TO YOUR JOB



FLEXIBLE ADJUSTABLE PORTABLE ROLLER CONVEYORS

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today for complete details... learn what it means to have corners unlimited.

Here is the answer to those ever-changing conveyor problems... corners, posts, obstructions, etc. are no longer a problem to keeping your production lines operating. Convey around them the FLEX-CO way... designed for constantly changing production problems... extend your conveyor lines where it has never been possible nor practical before, to truck platforms, shipping rooms, carloading, warehouses, etc. FLEX-CO Roller Conveyors are demountable to 8 inch sections, so they can easily be carried from one location to another, and added to as needed.

SINCE 1909

BERLIN CHAPMAN CO. BERLIN, WIS.

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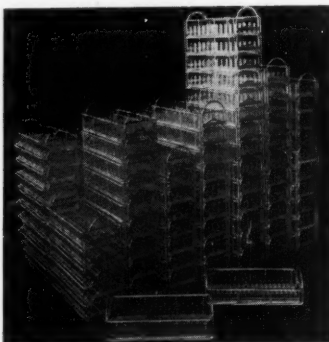
106

placeable rubber pads which have both mechanical and vulcanized bond to the steel backing. Six bolts are used to attach each pad to the arms. Average rated load of a truck equipped with the four-drum arm is 2800 lb. A truck having the two-drum arms has an average rated load of 1990 lb.

Hyster Co.

Circle No. 223 on Reader Service Card for more information

Eazy-Stack wire baskets, developed by Wire and Iron Products Inc. are designed to protect highly-machined finished parts, decal, and plated parts against abrasion through all phases of manufacturing.

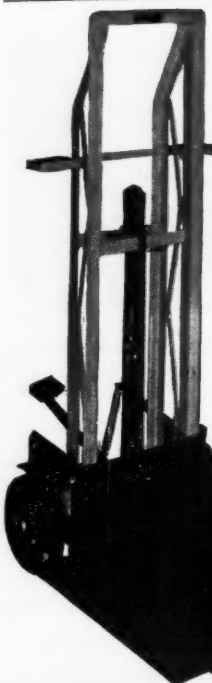


Each basket consists of a metal frame and custom-made inserts that will handle any shape or material. For especially fragile parts, the baskets are available with rubber or plastic coating. They are made of $\frac{1}{8}$ in., $\frac{1}{4}$ in., or $\frac{5}{16}$ in. steel wire; $\frac{1}{4}$ in., $\frac{1}{2}$ in., or $\frac{3}{4}$ in. flat expand-

ed metal; wire mesh or perforated metal.

Wire and Iron Products, Inc.

Circle No. 224 on Reader Service Card for more information



LET BIG JOE DO IT!

Ideal for stacking drums or loading and unloading heavy, bulky items from trucks. The Big Joe Lift has a heavy-duty hydraulic unit for fast action, and comes equipped with extension plates and a safety brake at no extra charge.

IT'S NEW

- Efficient
- Indestructible
- Economical
- Indispensable

All Purpose Lift—Model 14

Capacity—750 pounds

Lifting Height—52 inches

Price—\$236.50 FOB Chicago



For free bulletin write or call. . . .

BIG JOE MANUFACTURING CO.

184 NO. FRANKLIN ST. • CHICAGO 6, ILLINOIS

Circle No. 88 on Reader Service Card for more information

JANUARY, 1952 • FLOW

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An air operated portable elevator said to provide great safety has been introduced by the Barrett Cravens Co. It is powered by an Ingersoll-Rand Air Motor Hoist, operating from a compressor. Required pressure is 80 lb. and the air consumption is approximately 2.5 cu. ft. per min., per ft. of lift. Features include: an automatic brake; an automatic up stop; a safety downstop; complete control of the platform in any position. The elevators are available with lifting capacities up to 2000 lb.



Barrett-Cravens Co.

Circle No. 225 on Reader Service Card for more information

Liquid filters which are said to have great capacity, simplicity, and versatility to fit a wide range of demands were recently developed by Marvel Engineering Co. Available in both sump and pipe line models, they use as their basic filtering element a synclinally folded wire cloth cylinder backed by a heavier wire screen reinforcement. Individual capacity sizes range from five to 50 gallons per minute, and multiple installation can be made to meet needs for greater capacities. Wire mesh elements can be had in screen sizes from a coarse 30 to a fine 200 mesh.

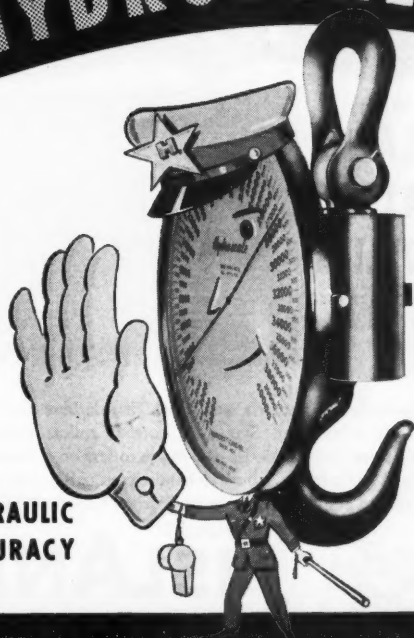


Marvel Engineering Co.

Circle No. 226 on Reader Service Card for more information

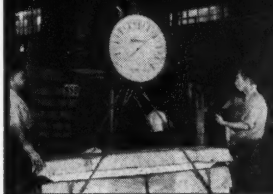
The Morse Portable Rotator will maintain practically any speed of rotation from 10 RPM to 50 RPM. It is available with or without motor and chain reduction and has a retractable caster frame which

HYDROSCALE



HYDRAULIC
ACCURACY

**A RUGGED—COMPACT
CRANE SCALE THAT
PROTECTS YOU AGAINST
LOSS!**



● IN RECEIVING

Check incoming weights at the dock without delay and extra handling.

● IN INVENTORY

Avoid transporting heavy bulky material to weighing stations. Speed up the job.

● IN PRODUCTION

Prevent overloading equipment. Batch and measure accurately. Foundries load ladles with even mold pours.

● IN INSPECTION

Scale can be incorporated in tension and load-pulling test equipment.

● IN SHIPPING

Check parts going out for sub contract work and final shipping weights.

No tie-up of men and equipment common to central weighing station layout. Weighs instantly as you lift the load to move it! Models 500 to 100,000 lbs. Dials 12", 24" and 30". Kilogram dials and other special designs for special work . . . Write for catalog.

HYDROWAY SCALES, INC.

20628 W. 8 Mile Rd., P.O. Box 4754 Detroit 19, Mich.

Circle No. 89 on Reader Service Card for more information

Circle No. 90 on Reader Service Card for more information

Cut Loading Time in HALF!

WITH ISLAND PALLET DOLLIES

Puts an end to
the pallet
handling problem.



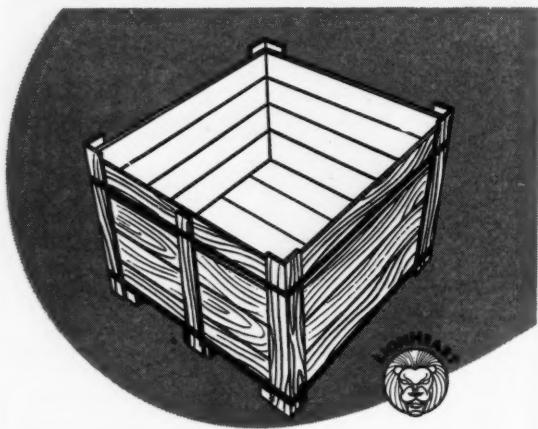
Fork trucks can't enter a reefer car! That's where the Pallet Dolly takes over. Staggered bottom rollers eliminate trouble from floor racks. Has 14 gauge rollers on 4" centers... 2 x 2 x 1/4 angle frame... built to handle your pallet... all parts are standard equipment. Write for detailed bulletin RTD-1A.

Dept. F1



ISLAND EQUIPMENT CORP.

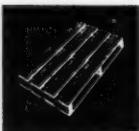
27-01 Bridge Plaza North
Long Island City 1, New York



CRAMPED FOR SPACE?

LIONHEART COLLAPSIBLE PALLET BOXES are specially made for increased storage, more efficient shipping. These containers with capacities up to 4000 lbs. are available for immediate delivery. Banding straps or wire hold the box for maximum safety, maximum loads; cutting the bands or wire collapse the boxes for storage, return shipments. Ideal no matter what the product, no matter what their function.

Order yours today.



L & H WOOD MFG. CO.
FARMINGTON, MICHIGAN

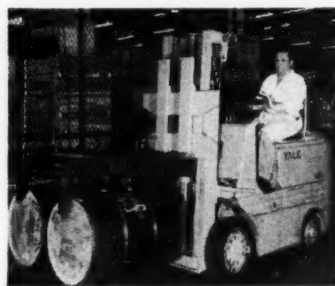
Circle No. 91 on Reader Service Card for more information

allows the drum to be rocked up into horizontal position, says the manufacturer, Morse Manufacturing Co., Inc. Two Neoprene drive wheels hold the drum ribs to prevent creeping of the drum during rotation.

Morse Manufacturing Co., Inc.

Circle No. 227 on Reader Service Card for more information

Horizontal drum handling by any industrial fork truck is said to be possible with a device made by the Philadelphia Division, Yale & Towne Manufacturing Co. Completely automatic, the new device is a self

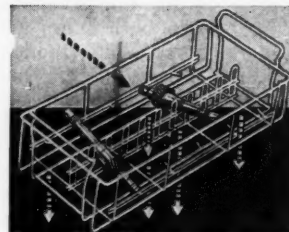


contained unit that fits over the forks and is fixed to them with two screw type clamps. One or two standard drums can be picked up with the drum handler by lowering it over them while the truck is slowly backing away. The

rear clamps are spring loaded and snap under the lip of the drum. When the drums are lifted, gravity action locks the hooks in place and there is no load on the springs. Weight is 270 lb. Drums may be filled with any common material and may be stacked to any height within the lifting range of the truck.

Yale & Towne Mfg. Co.

Circle No. 228 on Reader Service Card for more information



**PERMIT QUICK,
COMPLETE
DRAINAGE WHEN
PARTS ARE WASHED
OR DEGREASED**

**.. without removal
from the 'Carrier'**

- ★ Note open structure of "Carrier" as indicated by arrows.
- Supporting structure is designed by Mid-West specialists for the specific part so as to hold and suspend it with minimum surface contact. Protection of critical surfaces cuts repair costs . . . man-hours are saved because it is NOT necessary to remove parts from "Carrier" for most efficient washing and degreasing . . . personnel becomes available for other operations with substantial payroll savings.

Circular on Request



"If it's made of wire,
we can make it"

**SPECIALISTS
IN MEANS OF
SUSPENDING
MACHINED
PARTS**



MID-WEST WIRE PRODUCTS CO., INC.

JERRY GERALDS, President

FENKELL AT LINWOOD

DETROIT 21, MICH.

Circle No. 92 on Reader Service Card for more information

No wire-brushing, scraping, or sandblasting is necessary before applying Rust-Cure, an anti-rust paint made by the Monroe Co., Inc. Available in black, aluminum and clear, the paint is suitable for both interior and exterior use on either old or new metal. Upon application, it is said to penetrate through any existent rust layer and effectively seal the surface against further rust action. It is compounded for brush application and may be thinned with Rust-Cure Solvent for spray use. One gallon and five gallon cans and



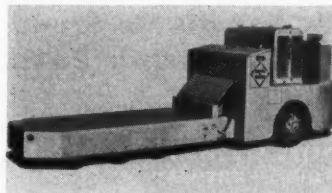
55-gallon drums are available.

The Monroe Co., Inc.

Circle No. 229 on Reader Service Card for more information

This electric powered low lift platform truck is designed for the transport of loads weighing up to

40,000 lb. Built by the Elwell-Parker Electric Co., the truck is designed to transport skids and skid boxes in



plants where large heavy loads such as stampings, forgings, castings, etc. must be moved quickly and efficiently. Overall length to the truck is 193 in. and width is 56 1/2 in. The platform measures 96 in. long by 41 in. wide by 17 1/2 in. high in the lowered position. These dimensions can be altered to suit requirements. Either gas-electric or battery powered trucks are available for varying operating requirements. Power steer for all eight wheels makes maneuvering in close quarters easier in spite of the truck's size.

Elwell-Parker Electric Co.

Circle No. 230 on Reader Service Card for more information

Stacking, loading or horizontal conveying can all be done by the Universal Model 600-U stacker and power booster manufactured by the Industrial Engineering & Mfg. Co., Inc. Miscellaneous cartons, bags



THE ORIGINAL SWING BOOM MOBILE CRANE WITH FRONT-WHEEL DRIVE AND REAR-WHEEL STEER

KARRI-GO is the world's lowest priced 5 ton front-boom crane. Ideal for work that does not require a swing-boom. 10 ft. boom adjustable in 6 positions. Pneumatic rubber tires.

Write for Bulletin No. 73

THESE TWO CRANES SAVE M-H* DOLLARS

KRANE KAR and KARRI-GO load and unload freight cars, trucks, trailers; are indispensable for production line materials-handling, for standby, emergency, and maintenance work. Gas powered for 24 hours a day service.

KRANE KAR is the world's finest swing-boom mobile crane. It will transport any load it can lift to any part of the shop or yard. Has amazing flexibility in congested areas. Investigate KRANE KAR before you buy! 1 1/2, 2 1/2, 5, and 10 ton capacity; pneumatic or solid rubber tires.

Write for Bulletin No. 79

*MATERIALS HANDLING



NON-SWING FRONT-BOOM CRANE

SILENT HOIST & CRANE CO. 888 63rd ST., BROOKLYN 20, N.Y.

Circle No. 93 on Reader Service Card for more information

Circle No. 94 on Reader Service Card for more information

MILSCO CUSHION SEATS

**For Sit Or Stand
Operating Ease**

**Adjustable
Back Rest**

**TIP'S SIDWAYS
OUT OF THE WAY**

**QUICK FOLD-
AWAY FEATURE**

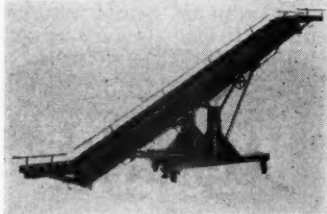
Deep contour seat and adjustable back rest provide full support and comfort. Folding back and side-tip feature make this Milsko seat ideal for small operating spaces. Choice of padding — high-grade jute felt, or foam rubber; water-proof black Koroseal coated duck, or genuine black leather.

Milsko
MILWAUKEE

Write for Catalog on Company Letterhead

MILSCO MANUFACTURING CO.
2742-FN. 33RD ST., MILWAUKEE 45, WIS.

or boxed materials can all be handled by the conveyor. It is mounted on a swivel caster base with floor-locking device. The trough is easily elevated or positioned by means of a V-type frame controlled by acme screws with hand wheels conveniently located on the side of the trough. This is said to speed up the positioning operation greatly. The unit is powered by a $\frac{3}{4}$ h.p. reversible motor mounted inside the channel frame.



Industrial Engineering & Mfg. Co., Inc.

Circle No. 231 on Reader Service Card for more information

Hot-Spot preheaters for 14½ in. manholes of bulk storage tanks have been announced by Rempe Co. The preheater is an all steel shell and coil assembly that is inserted into a bulk storage tank for preheating oil and other liquids before they enter the suction line. It rests on the bottom of the tank and suction pipe and inlet and outlet pipes for heat, (either steam or hot water), go through the manhole cover. A special flow accumulator is said to cause heavy oils or other liquids to flow over heated pipes before entering the suction line, thus taking load off the suction pump.

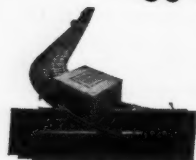
Rempe Co.

Circle No. 232 on Reader Service Card for more information



SPEEDY sez:

"SPEEDWAYS
low cost CONVEYORS
GO TO WORK in a HURRY!"



SPEEDWAYS Gravity Wheel Conveyors
— light, sturdy, portable — quickly taken down, moved, set up where needed — without tools. Handle up to 600 lbs. distributed load.



SPEEDWAYS Gravity Roller Conveyors
— best for "hard-to-handle" items like kegs, baskets, milk cans. Handle loads wider than conveyor. Mounted on stands or casters.



SPEEDBELT Portable Power "Boosters"
— for loading, unloading, stacking, etc. Hand crank for quick, easy height adjustment. Three sizes.

FREE — Helpful bulletin "How to Order Correct Size Conveyor." Also full information on SPEEDWAYS models. Write us today.

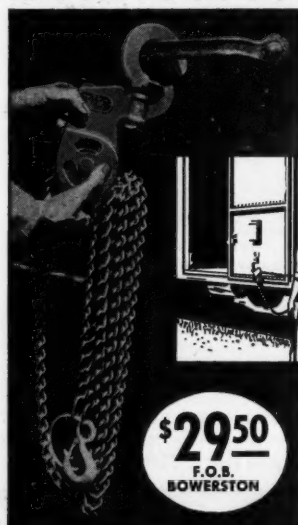
SPEEDWAYS Conveyors, Inc.

1242 Niagara St., Buffalo 13, N. Y.

Also Mfd. in Canada; Union of So. Africa

Circle No. 95 on Reader Service Card for more information
110

**One-Man 20-Second
BOX CAR DOOR
OPENER!**



Over 10,000 Nolan 1-man Car Door Openers now saving time ... saving money ... saving lives, for all types of businesses needing quick, positive box car door opening and closing. **Guaranteed to open the most stubborn, balky box car door in 20 seconds or less!**

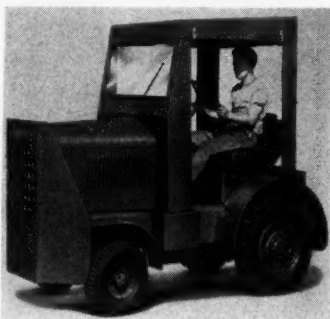
A few quick pulls on the NOLAN anchor chain does the job by one man. No gangs needed. No mangled limbs or loss of life from jammed or falling doors. The NOLAN saves its low initial cost in its first hour of operation. **FREE CATALOG** gives complete description. Order one or more NOLAN Model H Car Door Openers to meet all your needs.

\$2950
F.O.B.
BOWERSTON

THE NOLAN COMPANY • 110 Pennsylvania St. • BOWERSTON, OHIO

Circle No. 96 on Reader Service Card for more information
JANUARY, 1952 • FLOW

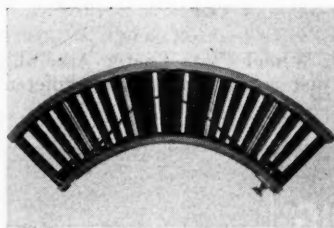
Maybe it's cold outside but with the low-cost, all-weather cab assembly recently announced by The Mercury Mfg. Co. all is comfortable inside. Designed for quick installation in the field on the company's line of heavy-duty gasoline tractors, the cab is shipped in knocked-down form to the user. The cab can be assembled by two men in approximately two hours. It requires 24 bolts for anchoring to the tractor frame. Features include: a 40x16-in. shatter-proof windshield of safety glass, an electric windshield wiper, canvas roll-down curtains, celluloid side and back windows, and a 12-gauge all steel body.



The Mercury Mfg. Co.

Circle No. 233 on Reader Service Card for more information

No skewing or jamming of cartons and packages around curves is claimed for the A-F 90 degree Live Roller Curve. Tapered rollers are the secret. A simple V-belt drive assures quiet, smooth operation with

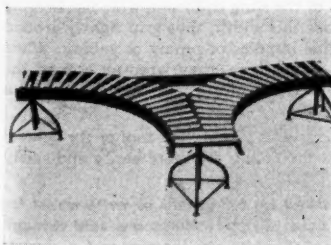


low maintenance cost, reports the manufacturer, Alvey-Ferguson Co. The V-belt drive requires no oiling and can be readily removed without the use of special tools and without dismantling the conveyor. The

Alvey-Ferguson Co.

Circle No. 213 on Reader Service Card for more information

A Converging Section named Converglo has been added to the line of Sage conveyors. These units



are available for all width roller conveyors from six in. to 36 in. wide. Special units can be manufactured on order. The conveyor sections are said to be ideal for use when it is necessary to have two lines converge into one, or one line branch out into two. All types of boxes, cartons, and tote-pans and work in process are handled effectively, it is claimed.

Sage Equipment Co.

Circle No. 235 on Reader Service Card for more information

FLOW • JANUARY, 1952

Use Self-Dumping Containers

Step Up Production

SAVE 50%

LABOR-TIME WITH

ROURA Self-Dumping HOPPERS

—they pay for themselves



Only ROURA Has the Exclusive (PATENTED) Instant Release Handle

Handling wet or dry, hot or cold, bulky materials quickly and easily, the ROURA is simple to operate—only one man is required for distributing and unloading—and he does this in much less time than ordinarily required under old-fashioned manual methods. Thousands of Roura Hoppers (which fit any standard fork or platform lift truck) are in constant daily operation, serving and saving for such firms as Owens-Illinois Glass, Corning Glass, National Fireproofing, General Motors, Ford, Chrysler, American Brake Shoe, General Electric, Westinghouse, Western Electric, American Steel Foundries, International Harvester, John Deere, etc.

By a simple lift of the exclusive release handle, the ROURA HOPPER dumps, rights and locks itself securely. Sizes— $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{2}$ and 2 cubic yards; the ROURA HOPPER can also be designed for flat trucks and in other sizes to meet specifications. Also, it can be equipped with special flanges that permit stacking to desired tiers for storage or future distribution of materials—conserving valuable floor space. Priced below all competition, the ROURA will quickly pay for itself many times over.

—Can Be Coated With Acid-Resistant Paints
Write today for detailed brochure, "In Dollars & Sense."

ROURA IRON WORKS, Inc.

1411 Woodland Ave.

Detroit 11, Mich.

Circle No. 97 on Reader Service Card for more information

ARE YOUR ELECTRIC TRUCKS GUILTY OF "4 O'clock Letdown?"



READY-POWER DRIVE

for Full Efficiency ALL THE TIME!

Only Ready-Power gives your electric trucks full efficiency for every minute of every hour . . . all day long. Ready-Power-equipped trucks are so easy to operate, drivers are more efficient, too. Unlimited power plus alert drivers add up to more ton-miles per hour.



CONTINUOUS-DUTY POWER UNITS

Your Truck Is No Better Than Its Power

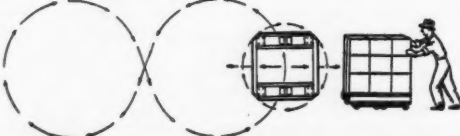
The READY-POWER Co.

3838 Grand River Ave., Detroit 8, Michigan
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

ANY OLD DIRECTION



Who cares?



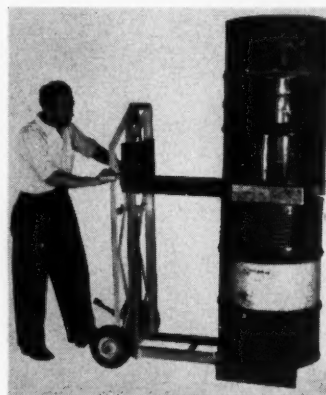
ACE "SWIVEL" PALLET ROLLERS

Moves pallet loads easily, in any direction, safely and with maximum employee efficiency—Time and field proven. Write for Engineering Bulletin No. 104.

PATENTS PENDING DISTRIBUTORSHIPS AVAILABLE

FRANK L. ROBINSON COMPANY
MANUFACTURERS
LATHAM SQUARE BLDG. • OAKLAND 12, CALIF

Here's an all purpose lift which is said to be ideal for stacking drums or loading and unloading



heavy, bulky items from trucks. Its name is the Big Joe All Purpose Lift, Model 14. Several of the features designed into the device by the manufacturer, Big Joe Manufacturing Co., are: a heavy duty, foot-operated hydraulic lifting unit; self-locking two-wheel tip-toe-operated safety brakes; non slip rubber grips with hand

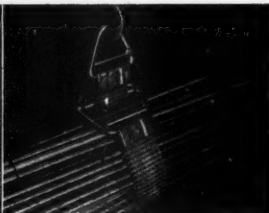
safety guards; and double duty roller bearings at all points of friction. Capacity is 750 lb. proof tested to 1500 lb. Height of lift is 52 in.

Big Joe Manufacturing Co.

Circle No. 236 on Reader Service Card for more information

The Forbes Fifth Wheel Plate Caster Assembly provides casters or just regular wheels for different

LIFT TUBING OR TURBINES



Cambridge GRIPPER
with **Woven Wire Slings!**

This amazingly versatile materials handling tool can be made big and tough enough to lift practically anything . . . even heavy industrial machinery.

Gripper Slings are made from a series of spiral wire loops joined together across the body of the sling to form a wide flat bearing surface. They hinge across this width, thus grip tightly around the load, even small radius bundles of piping or tubing. When rigged in a choke hitch, shown here, they wrap all around the load, thus providing greater stability. For heavier loads, a basket hitch is recommended.

Whether you're using slings as a production tool or for general maintenance, you can do the lifting job more easily and safely by using Gripper Slings.

SEE YOUR DISTRIBUTOR TODAY for full details or write direct for literature and technical data. Gripper Slings are sold through industrial supply, safety equipment and materials handling distributors.

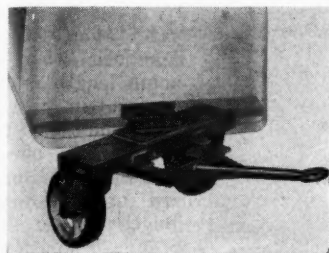


The Cambridge Wire Cloth Co.

WIRE CLOTH	METAL CONVEYOR BELTS	SPECIAL METAL FABRICATIONS	Department W Cambridge 1, Md.
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DISTRIBUTORS—ASK ABOUT VALUABLE TERRITORIES STILL OPEN!
Circle No. 100 on Reader Service Card for more information
JANUARY, 1952 • FLOW

types of operation by a simple raising or lowering of the tow bar. This makes it possible to spot a truck



easily for loading or unloading at the end of a haul, and yet, according to the manufacturer, Forbes Brothers Co., a truck equipped with this assembly may be towed at high speeds without wear or cargo damage. When the tow bar is up, the front

wheels act as casters. When it is down, in the towing position, they become wheels, and the truck operates as a standard truck. Some suggested uses are on marine docks, airfields, industrial warehouses, and military warehouses.

The Forbes Brothers Co.

Circle No. 237 on Reader Service Card for more information

An Elliott-type steering axle, designed for improved operating efficiency is a new feature on the Yardlift-60 Fork-Lift Truck of the Clark Equipment Co. Torsional rubber bushings are used at both pivot mount points to absorb shocks that otherwise would be transmitted to the frame. This is said to result in easier riding and steering qualities. In addition, underclearance is increased.

Clark Equipment Co.

Circle No. 238 on Reader Service Card for more information

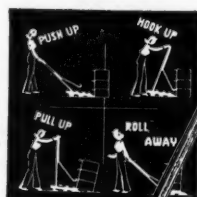


32,750 DOCTORS CONSULTED

said, "LET *George** DO IT"

Isn't it strange that they echo so many industrial buyers who use *George**, the almost automatic Roller Toter, to haul heavily loaded tote boxes. Hook engages box... forward leverage movement of truck handle glides load over bevelled edge of truck onto upper rollers. Lower rollers move truck to destination... safely, easily. Little effort, no back strains. Every plant needs one, big plants, many. Cost is low, long service life.

*Trade Mark



LET "*George*" DO IT

Write for free Folder & ROLOCK Incorporated Fairfield, Connecticut

Circle No. 101 on Reader Service Card for more information

FLOW • JANUARY, 1952

HERE'S HELP!

new *Hapman*

Neoprene-Flighted, Sealed-Pin Chain

TUBULAR CONVEYORS CATALOG



with sections on:

- Exclusive Advantages in Use
- Weight-Volume-Time Charts
- Applications in Metalworking, Chip, Dust and Sludge Handling
- Conveying in Chemical Plants, Beverage and Food Industries
- Case Histories, other new valuable features

IF YOU HANDLE flowable BULK MATERIALS LIKE THESE...

Metal Chips, Sludges, Dust from machine tools • Welding Flux • Wet or dry Chemicals: Powdered, granular, abrasive, corrosive • Foods: Wet spent Grains, Flour, Malt • Powdered Coal, Ashes, Filter Cake... and dozens of other materials.

...GET YOUR COPY NOW

Write on your letterhead for all-new Hapman Catalog F-152... Today!



Circle No. 102 on Reader Service Card for more information

Circle No. 103 on Reader Service Card for more information



Easily Handles Hard-to-Handle Materials

Clamp arms with replaceable jaw tips (for long life) grip box firmly. Clamps are opened for release and closed for gripping with a convenient foot pedal. Models for all types of box handling. Equipped with rubber-tired ball-bearing wheels. For bulletins address Dept. I.

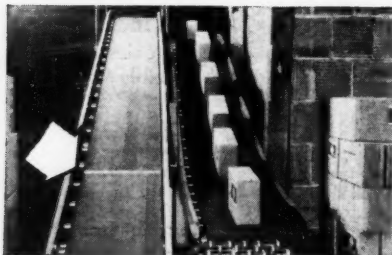
FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION
Riverside, California • McAllen, Texas



ALLIGATOR



CONVEYOR BELT LACING



Every
Tooth
A Vise*

**in Long Continuous Lengths
for Conveyor Belts**

- ★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- ★ In canneries where corrosion or rust is a problem specify Alligator made of Monel.
- ★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
- ★ Separable and smooth on both sides.
- ★ 12 sizes. For belts from 1/16" to 5/8" thick—and any width.

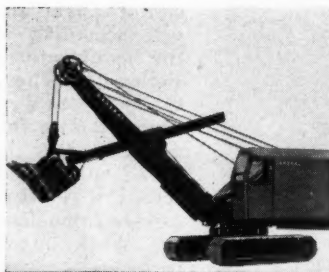
Order from Your Supply House. Ask for Bulletin A-60.

FLEXIBLE STEEL LACING CO. 4702 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

Circle No. 104 on Reader Service Card for more information
114

Shovel, Clamshell, Crane, Pile Driver, Dragline, and Hoe, all in one. The Model 320 of the General Excavator Co. is said to be fully convertible to all those uses in the field with a minimum of effort. Basic-



ly, it is a 3/4 cubic yard excavator. Standard shovel boom length is 18 ft., eight in. with a dipper handle of 15 ft., three in. effective length. Standard crane boom length is 35 ft. Standard length of the crawler is 11 ft., four in. with 20 in., 25 in., or 30 in. treads available. It is manually controlled.

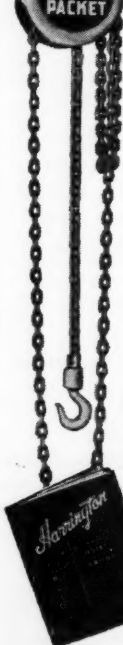
General Excavator Co.

Circle No. 239 on Reader Service Card for more information

You can have a completely mobile system of operations with the Turner System of Material Handling, according to Factory Service Co. Two of the items which go to make up this time saving, expense reducing system are a removable bin section on movable transport, and a die rack which takes dies to machines.

ONLY \$79²⁰

FOR 1-TON CHAIN HOIST!



That's a lot of hand chain hoist . . . for so little! And it's all steel, built to last! Lifting is practically effortless through a series of precision-cut, heat-treated alloy steel spur gears . . . and prelubricated, shielded ball bearings provide smooth, dependable operation. Its compact size, combined with light weight, permits the Peerless "Packet" to be "spotted" in any number of locations that require a hoist . . . For a well-constructed chain hoist . . . one that has "work-horse" stamina for every-day shop use . . . choose the Peerless "Packet" available in half; one and two ton capacities. Look in the yellow pages of your classified telephone directory for the nearest Harrington Distributor. Or write for Bulletin P-5.

HOIST MANUFACTURERS SINCE 1876

"BEARCAT" ELECTRIC HOISTS • TROLLEYS

PEERLESS HOISTS • "CUMALONG" LEVER PULLERS

Write for "PACKET" Bulletin P-5

THE HARRINGTON COMPANY
1638 W. CALLOWHILL ST.
PHILA. 30, PENNA.

Circle No. 105 on Reader Service Card for more information
JANUARY, 1952 • FLOW

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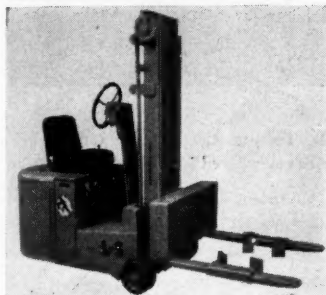
ation
LOW

With them, it is claimed, you can deliver the bin and save the handling.

Factory Service Co.

Circle No. 240 on Reader Service Card for more information

Drums and Other Cylindrical Objects can be handled with hydraulically operated clamping forks developed for the Lewis-Shepard Spacemaster 49 Electric Fork Trucks. They can be fitted with self-aligning rubber faced gripping pads when required. Horizontal movement of the forks is produced by two double acting hydraulic rams synchronized to give uniform motion to each fork. Minimum distance between forks is 12



in., and maximum distance is 27 in. Clamping pressure is controlled by a hydraulic by-pass relief valve that is adjustable to suit the loads to be carried.

Lewis Shepard Products

Circle No. 241 on Reader Service Card for more information

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM HIGH ACCURACY SCALE

Another Detecto-Gram Scale for your precision weighing jobs. Use this Detecto-Gram Super Sensitive Model #74-02 where hair-line accuracy is essential, where an error in the smallest fraction of an ounce may affect your profit.

Write for Literature



DETECTO · SCALES · INC.

MAKERS OF FINE SCALES SINCE 1900

541 W. PARK AVENUE • BROOKLYN 5, N. Y.

SCALE ENGINEERS IN ALL PRINCIPAL CITIES

Circle No. 106 on Reader Service Card for more information

FLOW • JANUARY, 1952

Circle No. 107 on Reader Service Card for more information

Save time! Prevent accidents!

LIFT AND DUMP
MECHANICALLY

**BAGS
BARRELS
DRUMS
BOXES**

REDUCE HANDLING COSTS with a Cesco Dumper. It handles up to 100 loads per hour; has a lifting cap. ranging from 100 to 1500 lbs. Both single- and multi-purpose portable models are built in standard dumping heights from 5 to 12 ft. Stationary models up to 16 ft. dumping heights. Push button controlled. Write for catalog.

COLSON EQUIPMENT & SUPPLY CO.
1317 Willow Street • Los Angeles 13, California



WRITE
FOR
CATALOG

CESCO SKIP HOIST DUMPER

Chem-Board Tote Boxes

**HELP
BUILD
RADAR**



Much of the radar needed to scan the skies for our country's safety is being built from materials and parts carried to production lines in Convoy Chem-Board Tote Boxes. The self-stacking boxes illustrated seal their contents from dust and light . . . stack to ceiling without support.

Chem-Board is made of corrugated fibre-board, chemically impregnated by Convoy's exclusive process. It is flint hard and rock strong. It is not weakened by moisture. It is impervious to machine oils. Convoy Tote Boxes cost and weight 50% to 60% less than steel.

The lightness, toughness and economy of Chem-Board Tote Boxes are unmatched. Tell us the style you use . . . we'll send a free production sample from the next run for you to test. As a guide for present and future availability, our current production capacity is reserved for the unprecedented demands from old customers and "DO" orders. Orders rated DO-MRO are acceptable. Write today.

Standard and Custom-made
Nesting - Stacking - Vertical
CHEM BOARD TOTE BOXES

CONVOY, INC.

P.O. Station B, Box 216-F
CANTON 6, OHIO

Circle No. 108 on Reader Service Card for more information

115

Circle No. 109 on Reader Service Card for more information

CRANE WHEELS AND WHEEL ASSEMBLIES



INSTALL THESE WHEEL ASSEMBLIES complete with axes, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; **SINGLE FLANGED WHEELS** from 4" to 8". Wheels are available unmounted or in completely assembled units.

WRITE FOR CATALOG Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog No. 3540. Specifications included. Write today!

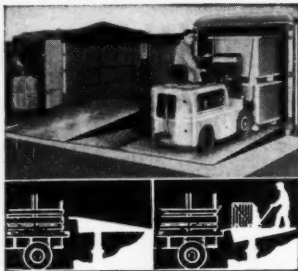
DOWN'S CRANE & HOIST CO.
MECHANICAL ENGINEERS 340 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks
Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane
End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake
Crane Hook Blocks

New Hydraulic Gang Plank

Speeds Loading 50%

Globe Hoist has come through with a most effective "aspirin" for your loading headaches. It is a new hydraulic ramp that speeds up loading or unloading by 50% with a corresponding cut in time and labor costs. When a truck backs up to your dock, pressure on a button raises or lowers the ramp. A sturdy "lip" rests firmly on the truck bed. The ramp is self-leveling and "rides" with the truck as the springs flex.



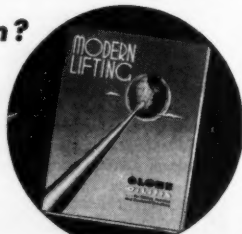
No excavation required for installation.

This latest Globe Self-Leveling Ramp operates by air, air-oil, or motor pump, and is simply bolted on a load pad, thus requiring no excavation. It is easy to install. Quickly pays for itself.

Got a Lifting Problem?
GLOBE
has the answer

Muscle is the world's most wasteful lifting power. A Globe OilLIFT will do it cheaper and better.

Write today for "Modern Lifting." It is full of interesting information on Self-Leveling Ramps, Machine Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc.

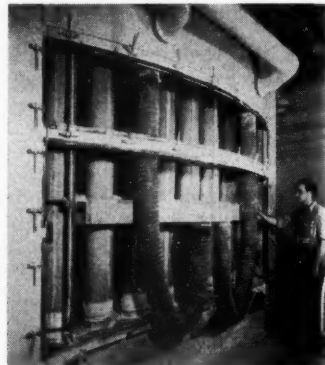


Write for Bulletin F-300

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

Circle No. 110 on Reader Service Card for more information
116

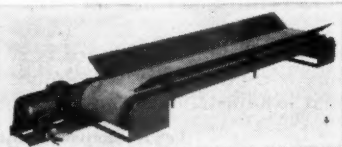
Spiratube, a flexible fabric tubing for ventilation and product handling is being made by Flexible Tubing Corp. This non-kinkable, light weight tubing, with accordion-like retractability, is constructed of spirally wound fabric overlapping spring wire ribbing. The entire tube is coated with Geon plastic latex, a product of B. F. Goodrich Chemical Co. This coating is said to provide excellent abrasion and chemical resistance.



Flexible Tubing Corp.

Circle No. 242 on Reader Service Card for more information

The Press Helper illustrated here is an example of special equipment built to specifications by Metzgar Co. engineers to convey slugs and waste from inside punch presses. It is an adaptation of the standard Metzgar Power Belt principle built with removable trough baffles and equipped with a 12 in. neoprene belt on



Hamilton

INDUSTRIAL TRUCKS

Hamilton Floor Trucks are built to give lasting satisfaction and trouble-free, dependable service. Hundreds of styles and sizes . . . platform trucks, two-wheel hand trucks, box trucks, shelf trucks, wagon trucks, dollies, barrel skids, lift truck system, etc. Special trucks, of wood or steel, designed and built to meet individual requirements.

TRUCKS, CASTERS AND WHEELS FOR OVER 40 YEARS



Built Right!
Priced Right!

WRITE FOR CATALOG

THE HAMILTON CASTER & MFG. CO.
1672 Dixie Highway Hamilton, Ohio

Circle No. 111 on Reader Service Card for more information
JANUARY, 1952 • FLOW

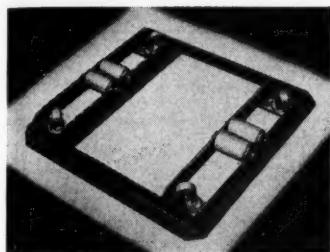
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six in. drum pulleys driven by a 1/4 H.P. gear motor. Practically all parts are standard with assembly modified to meet customer's requirements. Length is 66-in.

Metzgar Co.

Circle No. 243 on Reader Service Card for more information

The Ace Swivel Pallet Roller manufactured by Frank L. Robinson Co. was designed to roll a loaded



pallet in any direction. It is said to be ideal in plants where space is at a premium. The frame is constructed of high tensile strength steel, fully welded. It has hexagonal holes for axles to prevent them from turning. For stability, one heavy duty caster is installed at each corner of the pallet roller.

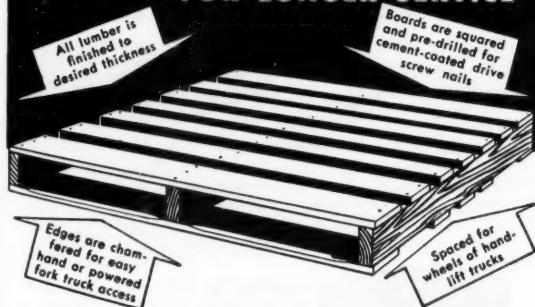
Frank L. Robinson Co.

Circle No. 244 on Reader Service Card for more information

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CUSTOM MADE FOR LONGER SERVICE



Every CARDINAL PALLET is custom-made for its specific Materials Handling function. A mixture of Kentucky hardwoods in No. 1 and No. 2 quality are used. Boards are pre-drilled for steel cement coated drive screw nails.

We build all types except the expendable.

Write for detailed information covering Pallets, Pallet Boxes, Pallet Tops and Dividers. Also boards cut to length and pre-drilled for repair of old Pallets.



**HOPKINSVILLE PALLET
COMPANY INC.**

GENERAL OFFICES • 6432 CASS AVENUE • DETROIT 2, MICH.

Circle No. 112 on Reader Service Card for more information
FLOW • JANUARY, 1952

MORE THAN JUST A NEW MATERIALS HANDLING BOX



IS A COMPLETE SYSTEM
THAT SPEEDS THE FLOW
OF SMALL PARTS FROM
STOCK TO DOCK . . .



IT NESTS

NesTiers nest when empty to save space. Bails prevent complete telescoping, eliminate possibility of units jamming or sticking together.



SPECIFICATIONS						
No.	Ga.	Length	Width	Depth	Wght.	
220	16	22 1/2"	12 1/2"	7 3/4"	15 lbs.	
175	18	18 1/4"	9 1/4"	6 3/4"	6 lbs.	

Welded Heavy Gauge Steel,
Baked Enamel Finish



IT TIERS

Bails lock units together to form a rigid stack. Parts in all units are visible and accessible from either end.



Designed by production engineers, the NesTier offers features found in no other box. It saves space—50 units can be nested in a five foot stack. It saves time—no need to transfer parts from one container to another. In tiered boxes, parts are visible and accessible.

IT STACKS IN RACKS, IT TRAVELS BY CONVEYOR, HAND TRUCK OR LIFT TRUCK

The NesTier can be easily carried, nested or tiered, by almost any means of transportation—even by hand.

Write for full details on NesTiers, NesTieracs, monorail carriers, trucks and dollies. Our service includes complete engineering advice on systematizing the handling of small parts in your plant.

METAL SPECIALTIES DIVISION of
THE CHAS. WM. DOEPKE MFG. CO. Inc.
ROSSMOYNE, OHIO

Circle No. 113 on Reader Service Card for more information

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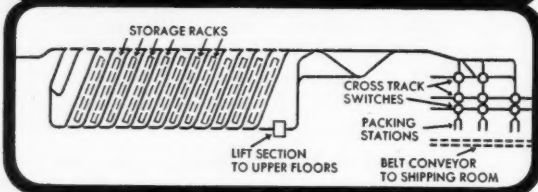
SYSTEM *speeds* ORDER MAKE-UP



Savings in labor, and in damaged goods, quickly pay for

Louden

MONORAIL
INSTALLATION



A large Eastern wholesale drug company raised their order make-up department to top efficiency by installing a Louden Monorail System. Such systems are adaptable wherever lots of small articles are made up from diversified stock.

A hand-pushed system operating throughout a multi-story building, the Monorail installation has increased storage capacity to a maximum, while permitting greatest accessibility to the shelving. Truck and floor maintenance has been eliminated, as has damage of goods resulting from collisions.

Movement between floors is accomplished with standard Louden track lift sections.



WRITE FOR FREE BOOK

Case histories of successful Monorail applications in many different types of industries are contained in an illustrated book called, "Economic Material Handling," free on request.

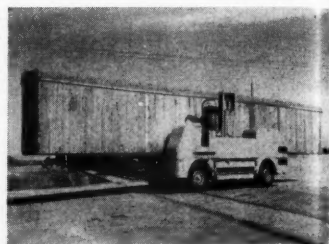
THE LOUDEN MACHINERY COMPANY
5113 S. Court St., Fairfield, Iowa

Louden

OVERHEAD MATERIAL HANDLING

Circle No. 114 on Reader Service Card for more information
118

Have a bulky load handling problem? Maybe the Lull Traveloader can help you solve it. Here you see it being used to move a load measuring approximately 48 ft. long, seven ft. high, and three ft. wide. Weight of the load is about 5,000 lb. From the original point where the load was picked up by the truck until it was deposited 3/10 of a mile away, required only 10 minutes of time. This is only one of many uses for the extremely versatile machine.



Lull Manufacturing Co.

Circle No. 245 on Reader Service Card for more information

It only takes seconds to adjust the Rite-Hite adjustable loading dock. According to the manufacturer, Karl A. Herman Co., you can speed work and

Moving or Storing is Rapid, Convenient
and Inexpensive with

IRONBOUND SEMI-LIVE SKID PLATFORMS



Ruggedly built with capacities up to 2500 lbs. These units are quickly made mobile with the use of low cost lift jacks . . . One of the methods that Ironbound engineers use to increase production and conserve space at low cost.



SEMI-LIVE SKID WITH BOX TOP

. . . permanently attached or removable. Also available with many other superstructures to "Short-Haul" your products thru production or into storage. Useful in hundreds of spots in every plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.



IRONBOUND

BOX & LUMBER COMPANY

Materials Handling Division

30 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS
Circle No. 115 on Reader Service Card for more information

JANUARY, 1952 • FLOW

cut costs with this device. It is designed for use in hand or fork truck loading. Work on the dock goes easily and smoothly as every carrier approach is perfect.

Karl A. Herman Co.

Circle No. 246 on Reader Service Card for more information

Here's a conveyor which can reach right into trailers, trucks, box cars, warehouse areas or across plat-



forms to take material where you want it. A product of the Standard Conveyor Co., it has been named the Extendoveyor. When extended to its full length it reaches out a distance of 46 ft. three in. As the area being loaded becomes filled, the conveyor can be retracted to

whatever length is most desirable.

Standard Conveyor Co.

Circle No. 247 on Reader Service Card for more information

REDUCE BULK STORAGE LABOR AND EXPENSE...



Moist zinc concentrates, stored in long room at metal refinery, are reclaimed by small Sauerman Drag Scraper to an inclined belt which loads the metal into cars.

with a SAUERMAN POWER DRAG SCRAPER

Using a Sauerman Scraper, one man can quickly store or reclaim both raw and processed materials—either indoors or out. Whether your needs call for handling just a few tons or hundreds every hour, Sauerman has the exact equipment for your job. First cost is reasonable, power and maintenance costs are exceptionally low. An added advantage in the open storage of coal: it builds a compact pile that is safe from spontaneous combustion.

Write now for free, illustrated booklet on Bulk Storage.

SAUERMAN BROS. Inc.

540 S. CLINTON ST., CHICAGO 7, ILL.

Circle No. 116 on Reader Service Card for more information
FLOW • JANUARY, 1952

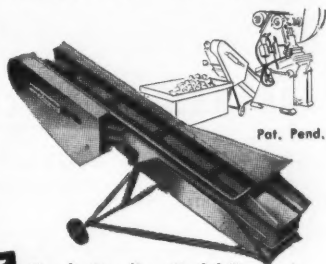
Big MAN-HOUR Savings

with Belt portable handling equipment, built especially for a variety of industrial jobs!

Stop your material-handling profit leaks by using lightweight, portable and inexpensive Belt conveyor equipment. Reduce the time and cost of scoop-shovel jobs, stacking and storing, loading and unloading packaged goods and bulk materials.

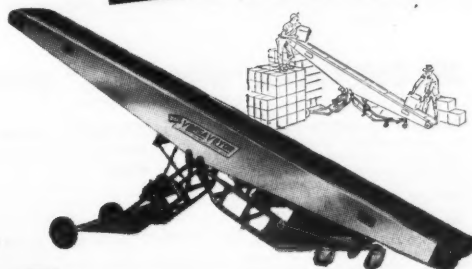
WRITE TODAY FOR PRICES AND LITERATURE!

Lengths—6, 8 or 10 ft. • height of undercarriage easily adjustable • will handle 100 lb. distributed load, 25 lb. maximum unit load • aircraft-quality, aluminum-alloy frame construction • 50 f.p.m. chain speed.



Pat. Pend.

BELT Handy-Handler, Model U



BELT Versaveyor, Bag and Box Handler

Overall lengths—13, 15, 17 or 19 ft. • 18-in. bed • can be operated with or without either or both undercarriages • 60 f.p.m. belt speed • aluminum-alloy frame • 600 lb. distributed load • 150 lb. unit load.



BELT

Model S
Handy-Handler

Standard 16-ft. length; also has 4-ft. extension section (special lengths available) • tough, aluminum-alloy construction • weighs 97 lbs. without the easily detachable power unit • can be used with or without dolly.

Pat. Pend.

BELT THE BELT CORPORATION
7404 STAHL ROAD ORIENT, OHIO

Circle No. 117 on Reader Service Card for more information



GET THESE "HI-SPEED" FEATURES

- "Standardized" Units usually shipped from stock.
- "Job-Fitted" . . . order assemblies to meet your requirements.
- Set up on the site in a few hours time.
- Bridge-like design—braces welded in correct position for maximum strength.
- Constructed to conform to strictest engineering practices.

AND DEPENDABLE "HIGH-SPEED" SERVICE

Baughman HI-SPEED Conveying Equipment is the result of practical experienced engineering—proven in operation. It will meet exact requirements, increase output and reduce operating costs. Baughman "Standardized" production methods cut equipment expenses. Quality materials and expert construction minimize maintenance costs. We welcome the opportunity to study your material handling problems . . . there is no obligation.

1. Conveniently located distributors from coast to coast.
2. Conveyors shipped in sections for lower freight costs.
3. Standardized construction . . . replacement parts immediately available.



MODEL 240

This heavy duty portable troughed belt conveyor furnished in belt widths of 24 and 30 inches. Assembled from Baughman "Standardized" units to meet material and capacity requirements. Mast type hoists recommended for conveyors from 50 to 70 feet long. Available with Swivel Wheels for easy maneuvering, etc. (Special order only.)

If It's HI-SPEED . . . It's BAUGHMAN



manufactured by
BAUGHMAN MANUFACTURING CO., Inc.

117 Arch Street, Jerseyville, Illinois

Circle No. 118 on Reader Service Card for more information
120

The Ratchet Rack is an adjustable rack which is said to require no bolting. To put it in place, a fork truck merely lifts it to the proper height and it snaps into position. According to the manufacturer, Borroughs Mfg. Div. of American Metal Products Co., the rack can be moved about while fully loaded. There are three models: standard, heavy duty, and extra heavy duty.

American Metal Products Co.
Circle No. 248 on Reader Service Card for more information

Last Chance To Save Money

This is your last opportunity to order your copy of the 1952-53 FLOW DIRECTORY at the special price of only \$5.00. After this month the cost will be \$6.50.

Send your order to FLOW
1240 Ontario St., Cleveland 13, Ohio

Circle No. 119 on Reader Service Card for more information
JANUARY, 1952 • FLOW

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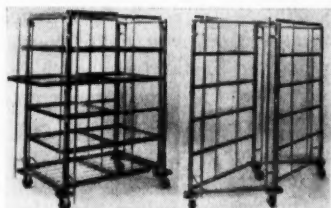
National Pneumatic Co. has introduced an automatic door operator which works from a floor-installed antenna as shown in the illustration. When a person passes over the antenna the high-frequency electrical system is unbalanced and door opening mechanism is actuated. The door stays open to allow safe

clearance, then closes automatically. The control system can be used on all types of sliding, swinging or folding doors. It is recommended for use in textile mills, factories, processing plants and similar locations where temperature and humidity control are important factors.

National Pneumatic Co.

Circle No. 249 on Reader Service Card for more information

Transporting and storage of small assemblies and metal, rubber or plastic parts is facilitated with the Model No. 441



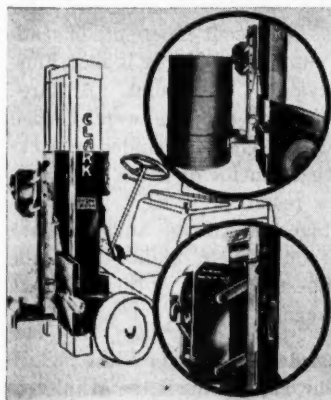
portable, heavy duty materials handling rack of Coleman - Pettersen Corp. The rack holds up to twelve removable trays stacked in six rows 12 in. apart. Each tray has a capacity of 70 lb., and the

racks can handle a total of 1500 lb. Measuring 24 by 31 in., the trays are suitable for use on standard roller and belt type conveyors. Trays can be removed and the racks folded flat for compact vertical or horizontal storage. Racks are approximately 4½ ft. in height.

Coleman-Pettersen Corp.

Circle No. 250 on Reader Service Card for more information

Any power truck can be used for handling drums with the new Liftomatic Power Truck Attachment



according to the manufacturer, Marvel Industries, Inc. Quickly attached or removed from the truck by one operator, the attachment handles any size drum regardless of whether it is fibre or steel. It is said to allow transportation, tying, and exact placement without the use of pallets or dunnage.

Marvel Industries, Inc.

Circle No. 251 on Reader Service Card for more information
FLOW • JANUARY, 1952

NO

bearing lubrication
bearing replacement
bearing failure

in
10
years



United Parcel Service Reports
100% Efficiency of

Arguto Oilless Bearings

The Spivey Company installed this belt conveyor 10 years ago, equipped throughout with Arguto Oilless Conveyor Roll Bearings. U. P. S., a busy, efficient organization demanded trouble-free operation of the rolls — and got it with Arguto.

The Spivey Company is just one of many conveyor manufacturers who count on Arguto self-lubricating bearings for lifetime service.

On new installations, or for replacement on old installations, Arguto is the answer. Practically IMMEDIATE DELIVERY of standard and special conveyor roll bearings.

Order today or send print for quotation.

ARGUTO OILLESS BEARING CO.

149 BERKLEY STREET | 20 years | without a drink
PHILADELPHIA 44, PA.



Circle No. 120 on Reader Service Card for more information

Cut materials handling costs with

MAGCOA Magnesium DOCKBOARDS



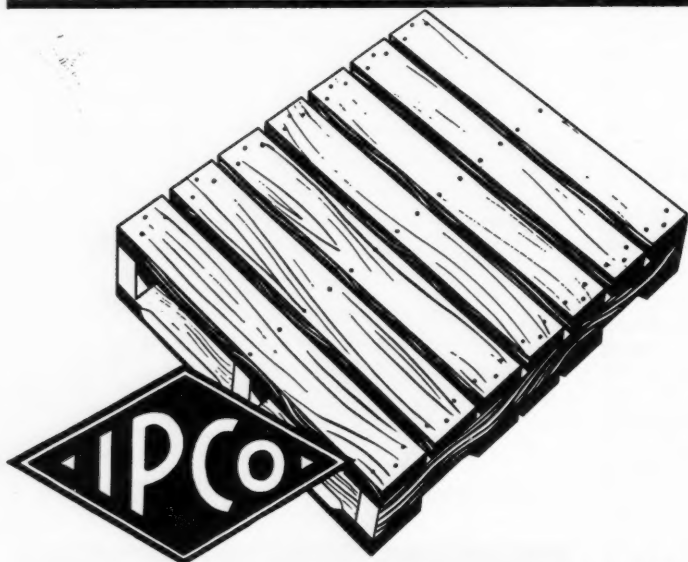
DIVISION OFFICES

30 Rockefeller Plaza,
New York 20
Russ Bldg., San Francisco 4
7657 Maline St., Houston
8922 W. 25th St. Los Angeles
8001 South Hampton Ave.,
Philadelphia
1025 Connecticut Ave.,
Washington, D. C.

Magcoa Magnesium Dockboards are proving the perfect answer to freight car and truck loading problems in every type of industry. One man can position it without the aid of truck, chain or hoist because it weighs $\frac{1}{4}$ as much as steel ramps of equal size and strength. Hand holds in each corner of the special quarter round safety curb permits ease of handling. Beveled edges and bend angle keeps Dockboard flush with floor and dock. Slipping out of position is impossible due to safety span designed to application requirements. Put completely modern Magcoa Dockboards to work for you . . . they'll take the load out of your carloading operations.

Representatives in All Principal Cities

MAGNESIUM COMPANY of AMERICA East Chicago, Ind.



• Ask IPCO pallet engineers for practical assistance on your palletization problems. Write today for detailed information. All Standard Type Pallets. Give details of your problem.

Mills strategically located for service in the East.

INDUSTRIAL PALLET CO., INC.

PALLETS EXCLUSIVELY SINCE 1941

1619 WOOLWORTH BLDG. • NEW YORK 7, N. Y. • TELEPHONE BARCLAY 7-8446-7

Circle No. 122 on Reader Service Card for more information

PACKAGING FOR MILITARY . . .

(Continued from page 96)

commercial users of those materials in order to retain their producibility. New materials are constantly being developed which do a better job more economically than did the old ones. New machinery is also being developed which does a faster packaging job with a greater saving of man hours. We have some difficulty in keeping up with progress, I'm happy to say. The thing we must keep in mind at all times is *will it do an adequate job.*

"How About Domestic Shipments . . ."

Perhaps I have shown you a few reasons why, to a great many people, it seems that our requirements for packaging is too high, that we overpack. You ask—Isn't it true that you don't send everything overseas? Must you have everything packed to stand fire and high water? Those are good questions. We do have some domestic consumption and we don't pack everything for overseas shipment or storage. Our present policy, as stated says "when it is known . . . that the item is scheduled for domestic shipment . . . the level of preservation and packaging may, at the discretion of the service concerned, be lowered to a level consistent with the anticipated hazards of shipment, storage and handling." We do pack items for storage when the ultimate destination is not known at the time of procurement.

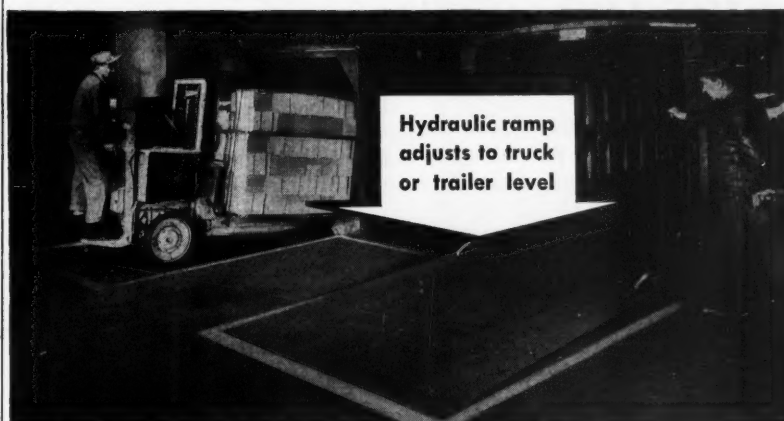
Our planning is necessarily for war. The recent experience of sending supplies to Korea is best illustrative of this point. A large amount of supplies were needed quickly. Time precluded repackaging them for overseas shipment. As a result there were large percentages of damage and loss. We are consistently finding that the cheapest package is the adequate package.

"Standardization Is Vital . . ."

Our major effort in the Munitions Board Packaging Division is standardization of materials, methods

NEW ROTARY LEVA-DOCK

doubles loading dock capacity



Mechanize your loading dock

The new Leva-Dock travels up or down to permit loading directly into or unloading from all types of trucks or trailers... without using steel plates, bridge ramps or other slow and often dangerous methods.

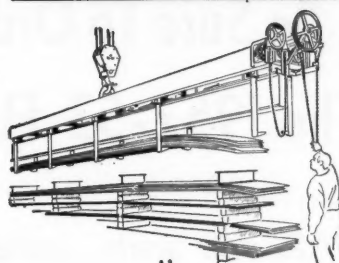
This hinged ramp is positioned by a hydraulic jack. Retractable supporting arms and

laterally adjustable throw-over bridge connect the ramp and truck bed. Platform automatically travels up or down as truck springs are compressed or relieved.

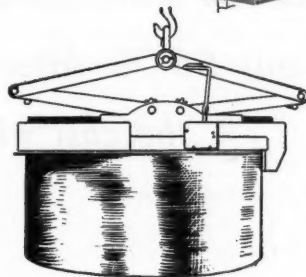
Capacities 5,000 through 20,000 lbs. Scientifically engineered, ruggedly built, powered by famous Rotary hydraulic jack. Simple to install and inexpensive to operate.

For catalog on the new Rotary Leva-Dock, write
ROTARY LIFT COMPANY, 1138 KENTUCKY, MEMPHIS 2, TENN.

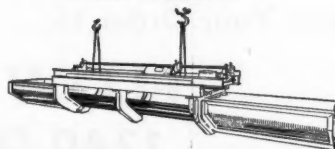
MANSAYER GRABS for the Brass Industry



Style 1447—For picking up long slabs of brass of various widths and lengths. Adjusted for width by Mansaver telescopic arrangement and center chain wheel. Supporting legs are rotated thru 90° by small chain wheel, affording minimum aisle space with maximum support for slab.



Style 1145—Handles individual coils by rim gripping. It is furnished in two styles, single or double acting, depending on conditions. Fully automatic cam mechanism shown in foreground.



Style 1394—Designed for taking bar stock, tubes, or extrusions from fixed racks and transporting to conforming fixed racks for further operations. The same grab is used for handling material from storage to screw machines. Finished stock is better handled in racks as in Grab 1262 described in previous ad.

Watch future ads for more types of Mansaver Grabs.
Write today for information on Mansaver Grabs for your needs.

MANSAYER INDUSTRIES, INC., 3103 East St., New Haven, Conn.

Circle No. 124 on Reader Service Card for more information



and procedures used in preservation, packaging and packing of military supplies and equipment. A number of practical benefits will result from the highest degree of standardization practical. We do not standardize for the sake of standardization, however. In some instances, standardization is not justified nor desirable.

The major saving from standardization will be simplification at the manufacturing plant. Where he now has established a packaging line, in some instances, for each procuring service, he will be able to have a single line using the same package for all military orders. He can carry smaller numbers of different materials in his inventory. His materials handling problems will also be considerably simplified.

On the military supply side similar benefits will accrue from standardization. Distribution can be made from a common depot to any using service, bureau or command. This program coupled with our present cataloging program, which identifies items under a common description and common stock number will eliminate the necessity of carrying duplicate items under various names and identities in stock. The standardization of the number of items in a pack, identification and marking, and the type of packaging and packing will add up to a substantial saving throughout procurement, storage and distribution.

We are accomplishing standardization by various methods. We have coordinated a basic packaging manual for joint use by the Military Departments. We are establishing a Joint Packaging School to which key packaging people from industry are invited. We hope that this school will clear up some of the confusion in the interpretation of packaging requirements of specifications. We are currently working on a new system of packaging instructions which will be written in simple, easily understood language, and will give guidance to family group-

HEAVY-DUTY FORK **LIFTRUK** Cuts the High Cost of Lifting!



Silent Hoist LIFTRUK
available in 5-7½-10 ton
capacities.

The heavy-duty "Silent Hoist"
Fork LIFTRUK is engineered
to reduce Materials Handling
costs and operations!

More Lifting Power . . . more
Carrying Power . . . means *big-*
ger loads, *heavier* loads and
fewer trips.

Faster unloading, more effi-
cient inter-plant handling and
higher stacking, quicker out-
loading to Truck, Trailer or
R.R. Car means a job well done
and at savings very often up
to 75%!

By Makers of **KRANE/KAR**

NEW BULLETIN
No. 77



Write for facts regard-
ing the Exclusive and
Original Features that
put Fork LIFTRUK
in the lead for *long*
service and *lower*
maintenance costs.

SILENT HOIST & CRANE CO.
Pioneers of Heavy Duty
Materials Handling Equipment

888 63rd ST., BROOKLYN 20, N. Y.
Circle No. 125 on Reader Service Card
124

ings of item classifications. This
will enable contractors to deter-
mine military packaging require-
ments for items for which no speci-
fications exist.

Since the Munitions Board is the
coordinating point of the packaging
program of the Military Depart-
ments, I will give you an idea of
how this is accomplished. Each of
the Military Departments has a
packaging board in its logistics
organization. Each of these boards
has membership from the various
services, bureaus and commands
under its jurisdiction. In turn
custodianship of specifications or
projects is assigned to those serv-
ices, bureaus or commands having
a major interest in the project.
This agency then prepares the
draft or basic work and it is cir-
culated to other interested mili-
tary agencies, as well as to
interested industry for comments.
The consolidations of these com-
ments is attempted in a final draft
which is recirculated for approval
before its promulgation. If ap-
proved by all agencies concerned

it becomes a coordinated document,
mandatory in its application for
use throughout the military.
Amendments and revisions are
handled in a similar manner. This
process is time-consuming, as can
be imagined, but our policy must
be one of acceptance.

The initiation of projects for a
new material, procedure, etc., may
come from almost any source—
within or without the military. Sug-
gestions are welcomed and are
immediately investigated for merit
and useful application. Such sug-
gestions may be sent to the
custodian direct, or through the
Packaging Division of the Muni-
tions Board.

"You Can Get Detailed Information . . ."

Packaging information is made
available to those persons having
occasion for its use. Packaging in-
formation is contained in the item
specification or in supplementary
packaging specifications. These
specifications are sent out with bid
proposals or may be obtained from

Be Sure To Order Your Copy of The 1952-53 FLOW DIRECTORY

*If you write immediately the cost is
only \$5.00. After it is out this month
the cost will be \$6.50.*

Send Your Order to:

FLOW
1240 Ontario St.
Cleveland 13, Ohio

Circle No. 126 on Reader Service Card for more information

JANUARY, 1952 • FLOW

K&J for TRUCKS and Casters



One dependable source for 2 wheel trucks, platform trucks, trailers. Units for loads to 50 tons. Wood or steel construction. All accepted bearing, wheel, and caster combinations. Built with high overload factor for low maintenance.

Get the same dependable quality and value in K&J casters. All standard designs, bearings, wheels, 175 lbs. to 1 ton capacity. Write for details.



THE KILBOURNE & JACOBS MFG. CO.
COLUMBIA, MISSOURI

Circle No. 127 on Reader Service Card
FLOW • JANUARY, 1952

the custodian of the specification as listed in the Indices of the Army, Navy and Air Force. The best place to get specification information is from your local Military Procurement Office. Adjustments and options or decision on methods or interpretation of instructions can best be settled at the office doing the buying. These offices will be glad to furnish you information and help you with procurement problems. We will be glad to furnish you information in instances where they are unable to help you.

Here is a question that came up recently, "How can industry best prepare in advance to meet its requirements for efficient materials handling". I'm afraid I can't give you a formula which you can apply to answer this question. I would like to see some materials handling and packaging influence exerted at the drawing board level in industry. If we could work on protruding lines, connection, shafts and exhaust stacks, we could rid ourselves of several headaches. If we could solve the problem of keeping kits packed in several different boxes together during shipment and storage we would solve another big problem. We are working with materials handling people in designing eyes for hooks and provisions for slings on containers. Unit packaging possibilities are also being studied. Size-weight limitations are always with us, and are determined by handling equipment available at the destination. Sometimes we run into engineering problems with a 10-ton box and a 5-ton crane. We must try to visualize the fellow at the other end of the line in design of our packs.

We have an Industry Advisory Committee composed of 18 top ranking packaging executives and specialists. Problems affecting industry are given them for recommendations and advice. Representation through this committee to other societies and associations is effected. It is our intention to maintain the closest possible liaison with Industry.

Take an EXTRA Profit with Weld-Bilt Experience in Materials Handling!



One Midwest manufacturer saved \$90,000 on equipment cost alone because he called in a Weld-Bilt engineer FIRST, before deciding on expensive special-design units recommended to solve a difficult handling problem. Our engineer, experienced in cost-saving shortcuts, showed how simple adaptation of more standard equipment could do the job even better.

This is the kind of service you can expect from WELD-BILT . . . a thorough analysis of your problems based on years of varied experience and wide knowledge, of handling problems . . . then a recommended solution that will do YOU the most good — in time and labor savings, in product protection, production speed-up — at the lowest cost. It may involve adapting standard equipment, custom-engineering new equipment — or merely realigning your present operations.

Call in the WELD-BILT Materials Handling Engineer for an economical solution to your problem today. You'll probably save money.

**WEST BEND
EQUIPMENT CORP.**
MATERIALS HANDLING
ENGINEERS
345 Water St., West Bend, Wis.

Portable Elevators • Pallet Trucks • Single
Stroke Lift Trucks • Two-Wheel Trucks •
Platform Trucks • Skid Platforms

Circle No. 128 on Reader Service Card
125

OPPORTUNITIES

USED EQUIPMENT MEN JOBS LINES

Rates: for "Positions Wanted" \$6.00 minimum, limit 25 words. For all other classifications \$10.00 minimum for 25 words; each additional word 25c. Boldface type or all capitals, \$12.00 minimum for 25 words, each additional word 35c. Box address counts as five words. All insertions payable in advance.

FOR SALE

Wright-Hibbard Truck, Type RBH3; Serial No. 1121; Low lift platform 18" x 42"; Lowered platform height 7"; Elevated height 11-11½"; Capacity 4000 lbs.; Battery 24 volts Exide 12-TLM 15 plates (app. 2½ yrs. old); 6 hr. capacity 350 amp hour; Purchased 1946 and in good condition; Sale Price: \$700.00 f.o.b. Rochester, N. Y., net 30 days. Elwell-Parker Truck, Type EIT-3; Serial No. 13262; Platform size 18" x 42"; 78" height—platform lift type 12-TLM 15 plates (app. 2 ETAOI 111½"; Low lift 7"; Capacity 3000 lbs.; Exide battery type 12-TLM 15 plates (app. 2½ yrs. old) 6 hr. capacity, 350 Amp. hours; full charge 1265 s.g. to 1285 s.g. finish charge rate 18 amps.; Purchased January, 1942, and in very good condition; Sale Price: \$1200.00

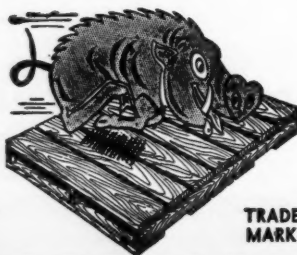
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WILL SAVE YOU DOLLARS IN YOUR
MATERIAL HANDLING COSTS!

RAZORBACK Pallets prove their superiority and economy in service through lower maintenance cost and longer life. Order a trial car today and compare RAZORBACK Pallets with those you are now using. Prompt deliveries on large or small orders.

Arkansas Pallet Co.

P. O. Box 794-A Phone 6474
PINE BLUFF, ARKANSAS



Circle No. 129 on Reader Service Card
126

f.o.b. Rochester, N. Y., net 30 days.
Material Handling Co., 517 Erie Blvd.
E., Syracuse, N. Y.

FOR SALE 2000'—Used 12" Skate
Wheel Conveyor; 6 Wheels per foot;
Can be used on either side; \$1.25 per
foot, FOB Chicago, Illinois. PASS-
MAN BROS., 1101 W. Lake St., Chi-
cago, Illinois.

FOR SALE—Silver 10" Paper Shred-
der complete with 1 HP 110V Single
Phase Motor; V Belt drive. Excellent
condition, practically new. Original
cost \$435.00. Our price \$195.00 FOB,
Chicago, Illinois. PASSMAN BROS.,
1101 W. Lake St., Chicago, Illinois.

FOR SALE—100 Used Package Trucks
32" wide x 60" long x 79" high. En-
closed three sides suitable for wholesale
drug; tobacco merchantile; and mail
order houses. \$35.00 each FOB, Chi-
cago, Ill. PASSMAN BROS., 1101 W.
Lake St., Chicago, Illinois.

FORK TRUCKS — RENTALS —
SALES — We SELL re-built fork
trucks. We BUY your used equipment.
All makes—All sizes. ATLAS LIFT-
TRUCK RENTALS, INC. 1139 S. Wa-
bash, Chicago 5, Ill.

HELP WANTED

Materials handling salesman wanted for
Connecticut. Leading eastern factory
representatives, distributors have open-
ing for aggressive experienced man.
Salary or drawing against commission.
Box 1152 FLOW.

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Wanted Material Handling Equipment
Lines including Hand Trucks, Casters,
and Wheels for Los Angeles Area. Send
complete data to "PECO", 2124 E.
Glenoaks Blvd., Glendale 6, California.

LINES WANTED

WASHINGTON, D. C. REPRESENTA-
TIVE 15 years' experience in selling
Materials Handling Equipment to Fed-
eral Government Departments. James
F. Hardy, Barr Bldg., Washington 6,
D. C.

HELP WANTED

Graduate mechanical engineer, 10-15
years' experience in materials handling,
mechanization, and plant layout, pre-
ferably with knowledge of many dif-
ferent industries and some consulting
or sales experience. Opportunity to be-
come partner. Preben Jessen Co.,
Factory Engineers, Chrysler Building,
New York City.

Sales Engineer New England's largest
distributor of Materials Handling
Equipment requires the services of a
Sales Engineer experienced in the de-
sign, fabrication and erection of cranes
and monorail. An exceptional oppor-
tunity to affiliate with an outstanding
organization in a rapidly expanding in-
dustry. Salary commensurate with
ability. Box 1352 FLOW.

EQUIPMENT WANTED

WANTED—Steel Tote Pans, Stacking
or Nesting Type. We will purchase any
Used, Surplus or Obsolete pans that are
in decent condition. Box 1252 FLOW.

ENGINEERING SERVICE

Processing, Plant Layout, Material
Handling, Cost Studies. Industrial Sur-
veys and Management Reports. R. M.
Bathurst, Registered Professional En-
gineer. 801 West 15th Street, Tyrone,
Pa.

**THE HANDLING OF LIQ-
UIDS** is one of the subjects
to be discussed in the February
issue of **FLOW**. This will be the
first of a two-part article and
will examine how liquid han-
dling equipment is used in the
metal working field. The fol-
lowing month will detail this
equipment in processing indus-
tries.

**HOW TO CHOOSE THE
PROPER PORTABLE BRIDGE
RAMP** is another report you
will want to read . . . it too is
in the next issue. There will be
tables and charts that you'll want
to keep on hand for future
reference. Don't miss these and
other outstanding articles.

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CONSULT **PS** FOR THE BEST

Materials HANDLING EQUIPMENT

Custom Built To Meet
Your Needs

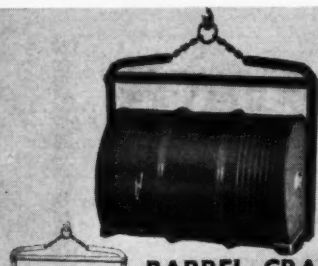
We design and build all types of materials handling equipment... for pick-up, loading, moving, dumping or storage... made of metal, or wood, or combination.



Item B-731
\$18150

DRUM and BARREL TILT

A barrel tilt for controlled, precision dumping or pouring. Ideal for chemicals, solvents, powders, etc. Turns 360° through worm drive. Equipped with two safety type locking devices and all-steel, welded yoke. Hand-operated chain drive.



Item B-416
\$3360

BARREL CRADLE

Toggle Type

Picks up any shape barrel or drum, straight or bilged sides, flat or chimed ends—also without chimes (flush ends). Handles rolls of paper, carpeting. Heavy bar stock welded construction. Capacity 1000 lbs. Weight 45 lbs.



Item NS-288
\$6075

BARREL and BOX GRAB

For picking up any type of wood or steel barrel, box or container, from 40" diameter down to small nail key size. Will lift up to 2000 lbs.

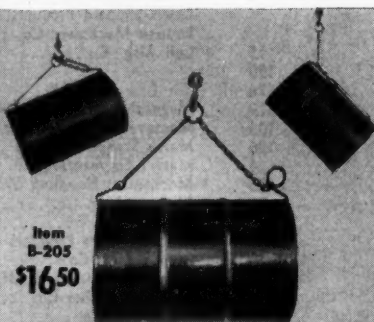


Item J-631
(1000 lbs.)
\$3180

Item J-632
(1 ton)
\$3910

UNIVERSAL GRAB

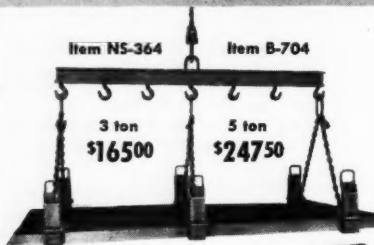
For picking up heavy boxes, crates, bales or other loads where hooks may be used. Heavy, forged steel hooks adjustable spread of from 16" to 48".



Item B-205
\$1650

DRUM and BARREL SLING

Handles barrels, drums, kegs—anything with a lip. Half ton capacity. Heavy welded chain and forged grab hooks. Weight 8½ lbs.



Item NS-364

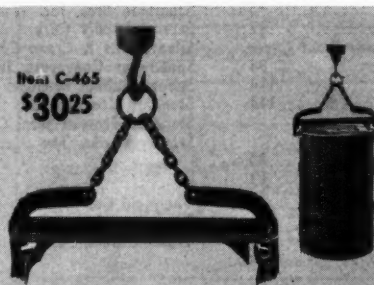
Item B-704

3 ton
\$16500

5 ton
\$24750

SHEET STEEL GRAB

Handles sheet steel bundles, any size 0" to 9" thick, 18" to 48" wide and any length.



Item C-465
\$3025

Vertical DRUM LIFTER

For handling open and closed steel drums in vertical position, by crane or hoist. All-steel with heavily welded chain. Sure-hold safety barrel grip. Saves plant space. Use for either high or low ceiling condition.

OTHER Palmer Shile PRODUCTS



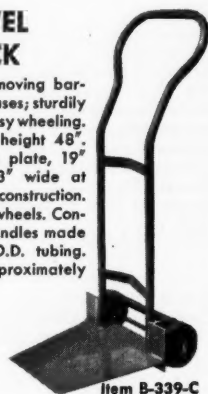
NS-298
\$5115

HAND DUMP TRUCK

Reinforced heavy sheet steel. ½ cubic yard, capacity—two 8" semi-steel wheels and two 4" metal swivel casters. Wt. 125 lbs.

SHOVEL TRUCK

For pick-up and moving barrels, hampers or cases; sturdily constructed and easy wheeling. Overall standing height 48". Heavy steel nose plate, 19" wide at base, 13" wide at front. All welded construction. Two 6" diameter wheels. Convenient shaped handles made of heavy 1¼" O.D. tubing. Weight of truck approximately 50 lbs.



Item B-339-B
roller bearing
metal wheels
\$3025

Item B-339-C
rubber tire, roller
bearing wheels
\$3575



Combination TRUCK and DRAIN RACK

Loads Automatically

A dual purpose truck that can be used to move barrels or drums and also serve as a drain rack. Available in two styles—with or without detachable handles. Sturdy frame-welded construction. Weight approximately 90 lbs.

Item NS-506
(Handles welded to frame)
Item NS-506 DH
(truck complete with
detachable handles)

\$4675

\$4895

Item S-911M
Metal Wheels
\$3685



Item S-911R
Molded on
Rubber Wheels
\$4235

Item S-911P
Pneumatic
Rubber Wheels
\$4950

BARREL TRUCK

It Loads Automatically. Three style wheels—metal, rubber or metal and pneumatic. Capacity 1000 lbs. 22" wide for narrow openings. Weight 85 lbs.

When ordering Always give "item" number; this will help prevent error. All prices are Lab. Detroit. Prices subject to change without notice. Write for catalogue.

DESIGNED AND MANUFACTURED BY

Palmer Shile Co.

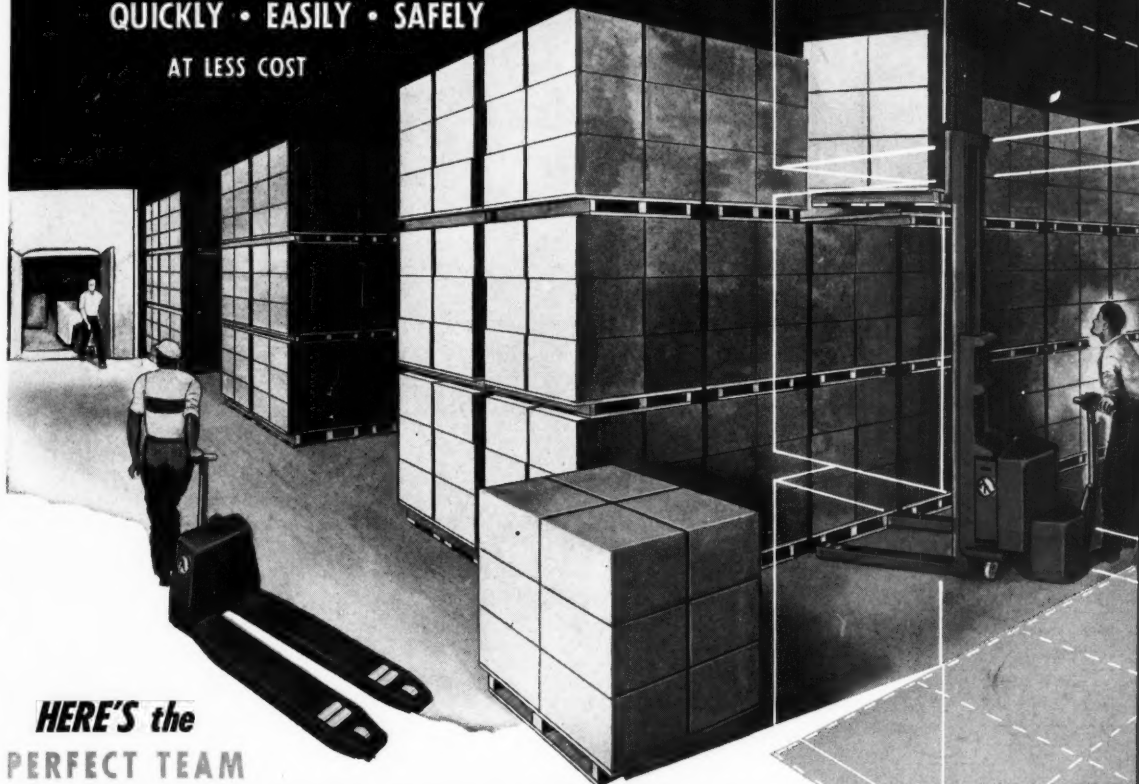
16012 FULLERTON AVE., DETROIT 27, MICH.

L-S "JACKSTACKER" TIERING TRUCK

Operates in LESS than 6 FT. AISLES!

QUICKLY • EASILY • SAFELY

AT LESS COST



**HERE'S the
PERFECT TEAM**

FOR MAXIMUM EFFICIENCY HANDLING PALLETIZED LOADS

L-S HYDRAULIC FOOT LIFT PALLET TRUCK

CAPACITIES up to 6000 lbs.

Multiple stroke, high 4" lift, forward lowering, constant wheel base. Fast, light-weight yet rugged, with maximum strength. Trouble-free. In your plant, or for hauling from elevators, freight cars, highway trucks —HP permits the "JACKSTACKER" truck to concentrate at stacking location, its maximum service point. HP is not only economical, but can be used in place of heavy fork trucks on short hauls.

THE L-S HYDRAULIC FOOTLIFT PALLET TRUCK

... whisks pallet loads out of freight cars, highway trucks, elevators — and hauls them to any convenient transfer spot.

THE L-S "JACKSTACKER" TRUCK

... picks up pallet load, enters aisle — then IN ONE TURN spots and stacks load ceiling high in AISLES less than 6' wide.

L-S "JACKSTACKER" TIERING TRUCK

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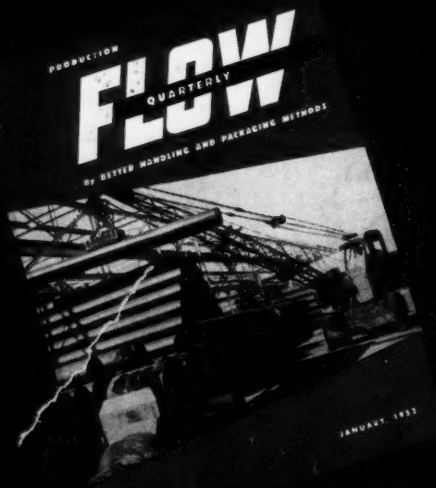
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